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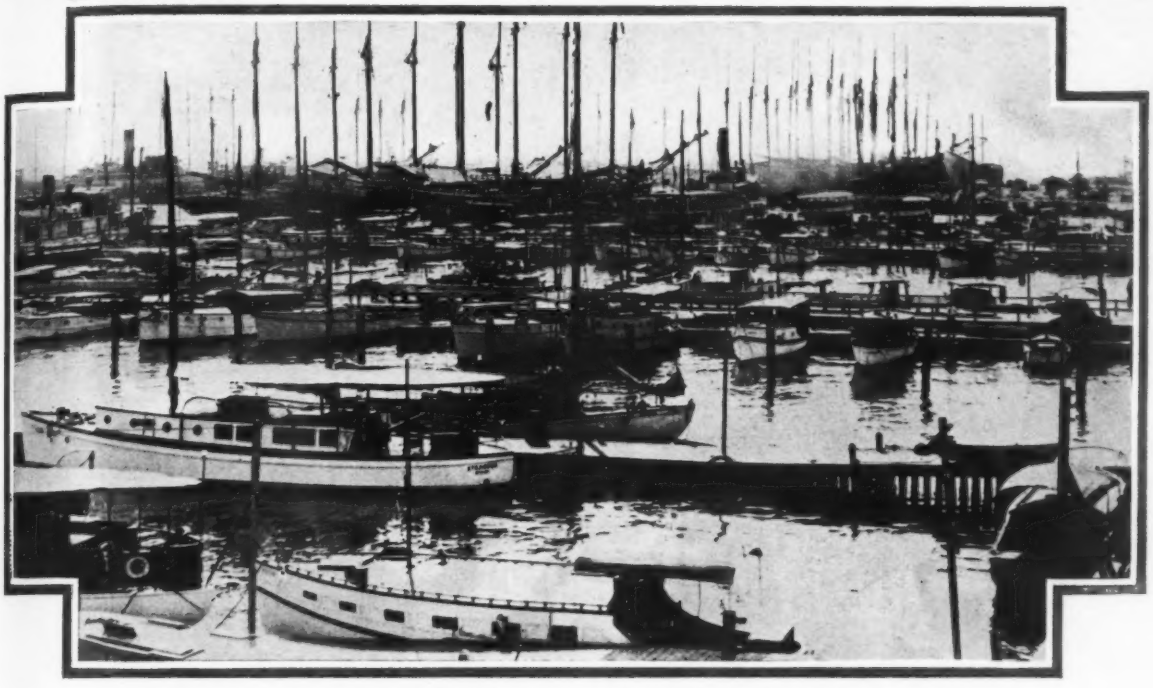

The harbor of Miami, Florida, crowded with shipping, motorboats and yachts from the four corners of the earth. Thousands of visitors from every state in the Union are enroute to Florida or already there to take away their share of the perpetual sunshine

March
1926

MOTOR BOATING

119 West 40th St.,
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Cover Design by A. D. Neville

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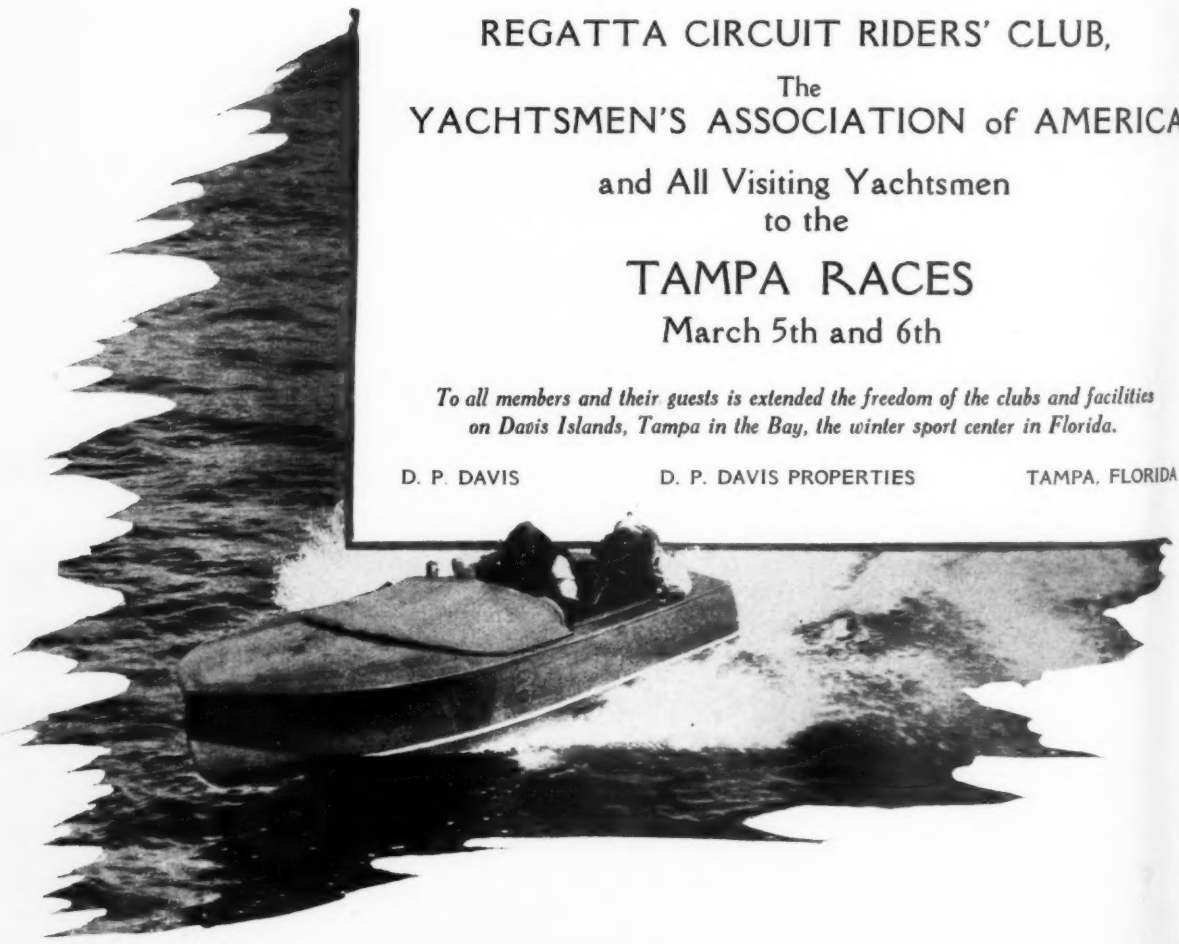


Advertising Index will be found on page 186

CHAP *Says:*

Keep *the* Sea CLEAN!

LAST December, Senator Wadsworth, New York, introduced a bill which forbids the discharge of oil into the coastal waters of the United States. This bill provides drastic penalty for violators; a fine of $1500 and imprisonment for one year. The object of the bill, needless to state, is to keep our beaches clean; to conserve marine life.

This bill is splendid! But does it go far enough? Shouldn't it also forbid the throwing overboard of refuse of any kind, from any kind of boat?

This coming season will see more boats in our waters than ever before. The boat builders are now entered upon a program that will approach, in volume, close to $15,000,000.

With this increased number of boats, we are going to face a real problem, the problem of refuse disposal. To follow the old practice, which was permissible in the days of few boats, will gain us ill-favor; as the careless motorist has gained ill-favor by littering our highways.

Floating drift is the greatest menace to the enjoyment of our sport. Most of it is thrown overboard thoughtlessly. We can help. We can make others help, too.

The problem is a real one, but not difficult of solution. It simply needs the co-operation of every yachtsman. To date, in this sport of ours, to call attention to an evil has been to correct it. And we sincerely hope that this spirit of real sportsmanship has not changed.

And never will.

ACROSS AMERICA by Motor Boat

By John Edwin Hoag

Part III

From St. Louis to Manistee, Via the Mississippi River, Illinois and Michigan Canal, the Chicago Drainage Canal, and Lake Michigan

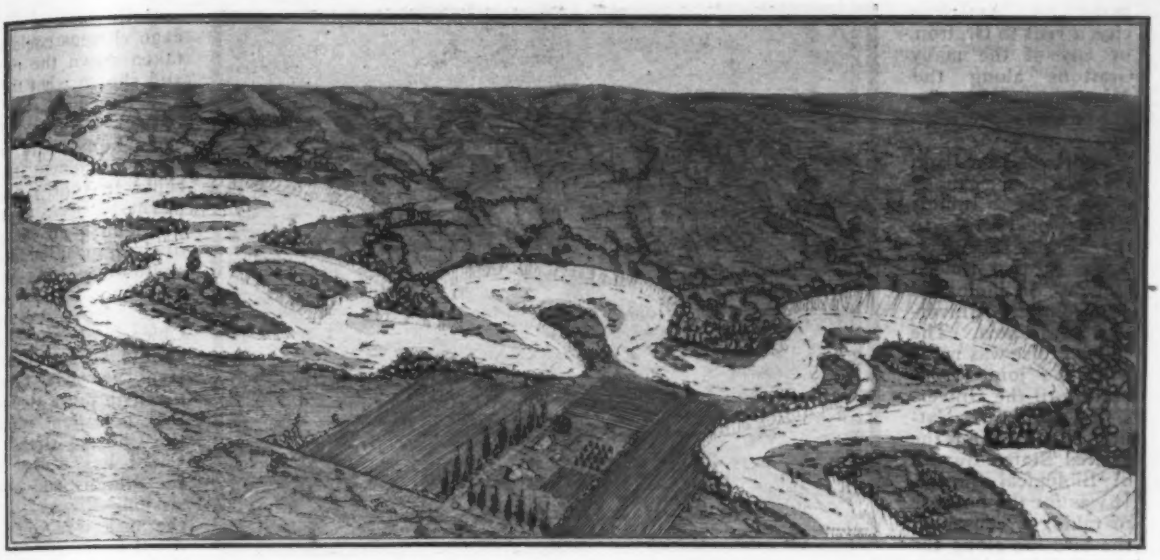
IN Part I of Across America by Motor Boat, Published in December MoToR BoatinG, *Mr. Hoag described the journey of Transcontinental up the Columbia River from the Pacific Ocean at Astoria, Oregon, in an effort to accomplish the first crossing of the continent by boat. The boat, driven by two 4 h. p. Evinrude Motors reached the highest point on the Columbia attainable, and was portaged over the Continental Divide to the headwaters of the Missouri River, to continue the journey of more than 5000 miles to New York over the inland waterways.*

In Part II, published in January MoToR BoatinG, *Mr. Hoag described the experiences of the party in making the run of 2284 miles down the treacherous Missouri River from Fort Benton, Montana, to the Mississippi River:—Editor.*

WE kept our schedule into St. Louis. Although most of the morning was consumed making photographs around camp and overhauling our equipment, we got under way at 10:30 in the morning. The run down the Mississippi was only a matter of 18 miles, aided by a 4 mile per hour current, so that we pulled up in front of the Municipal Landing Barge sharply at noon. There we were welcomed by the usual delegation of newspaper men and photographers. After getting properly mugged and reported, we were taken in tow by William H. Dees, Sales Manager for The Canvas Products Company, of St. Louis. Mr. Dees' firm manufactures the Peerless Auto Tent, which we had found to be a very satisfactory article for motor boat use, and which had been our home during the cruise when we were not actually under way with the boat. We spent that afternoon, and the following day in St. Louis, getting started for Hoboken again about 9 o'clock on the morning of August second. Notwithstanding the fact that the Mississippi from St. Paul, Minnesota to New Orleans, is a rather sluggish stream, we found that the current dragged heavily upon a boat having no greater speed and engine power than Transcontinental had. But, we had plenty of headway left after overcoming the current even though we played safe and bucked right up the middle of the steamboat channel which is marked with a veritable fence of buoys and shore day marker targets. The run of 18 miles back up the Mississippi to the mouth of the Missouri was made in 3 hours, and at one o'clock in the afternoon we tied up at Alton, Illinois, to go ashore for lunch. It was a tremendous relief to be away from the nerve-racking strain of dodging sand bars and snags in the Missouri, and just to have clear water to cruise in was a pleasure we had not known since leaving the Columbia.

While the Mississippi River above the mouth of the Missouri might not be considered clear by persons who are used to streams and lakes of crystal clearness, it is sufficiently clear that the tip of an oar blade is visible about four feet below the surface. Below the mouth of the Missouri, however, it's quite a different story. The writer is inclined to share the views of certain geographers who have always maintained that a grave mistake was made when the Missouri was named as a tributary of the Mississippi. It has been claimed that the Mississippi really flows into the Missouri, and that the Missouri is one river from the point in Montana where it is formed by the junction of the Madison, Gallatin, and Jefferson Rivers—right straight through to the Gulf of Mexico. The question will probably always remain debatable, but it is an incontrovertible fact that—there is no Mississippi River below the mouth of the Missouri. The Mississippi most assuredly loses its identity after the Missouri pours its torrent of silt and mud down to mingle with the waters of the Mississippi. The Mississippi is swallowed by the Missouri just as the Missouri is swallowed up in North Dakota where it meets the Yellowstone.

The scenery along the Mississippi, especially on the Illinois side of the river between Alton and the mouth of the Illinois River at Grafton, Illinois, was without doubt some of the most beautiful we had seen since leaving the bad lands of Montana. Along this portion of the river the shore line terminates at the water's edge in the form of great, rocky, almost perpendicular bluffs. These rocky formations appear to be very old, much weathered and waterworn, and with patches of vivid green vegetation growing out of the cracks and canyons that break through the rocky walls. For the first



This drawing made from a panoram photo of the Missouri River near Yankton, South Dakota, illustrates the theoretical method of navigating the stream. The deepest water is usually found where the current is swiftest. Hence, navigating is an endless process of attempting to follow the fastest water, swinging from cut bank to cut bank, and constantly crossing and re-crossing the stream. The route of a boat down the river is essentially as indicated by the line of arrows. This illustration is typical of the entire river from Montana to the Mississippi

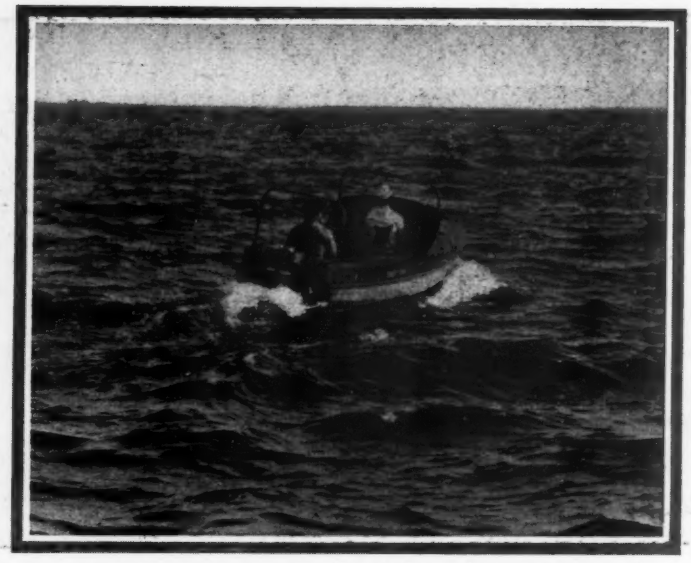
time on the entire cruise we found ourselves on this portion of the run in the company of other motor boatmen. Motor boats of all descriptions appeared along the river. Boats bearing such distant ports of registry as Peoria, St. Paul, and Des Moines, indicated that we were not the only outfit doing a bit of long distance cruising.

Traveling on up the Mississippi that afternoon we arrived at Grafton, Illinois, at the mouth of the Illinois River at six o'clock in the evening. Grafton is a quaint little town of less than a thousand population, but it seems to typify the many little communities that dot the shores of the Mississippi from Lake Itaska to the Gulf of Mexico. It is one of those villages in which we still find the unspoiled Americanism of two or three decades ago—people who work six days a week, go to church on Sundays, maintain the standards of living that were those of our great grand parents, lead simple wholesome lives, and don't walk up the backs of each other's necks in the present day scramble after the elusive dollar. It is one of those few remaining towns where the hostelry sells a night's lodging in a nice clean room with a bed and a wash bowl for a dollar, and meals at fifty cents each. At mealtime they load the food onto the tables, go outside and toll the bell—the signal to those who are hungry to come and get it. To one who has spent most of his recent years in the commercial tread-mill of the

Transcontinental looks diminutive in the Soo Locks alongside a Great Lakes freighter

modern American city, a visit to Grafton, or any of the many Graftons along the Mississippi, is deliciously refreshing.

Fourteen years ago the writer canoed down the Illinois River from Peoria to the Mississippi River. I was at that time a student of biological science at the University of Illinois. The canoe cruise was made with the joint cooperation of the University College of Natural History and the United States Bureau of Biological Survey. It was for the purpose of taking a census of the bird life along the river, and making an analysis of the stomach and crop contents of birds to determine their economic relation to agriculture.



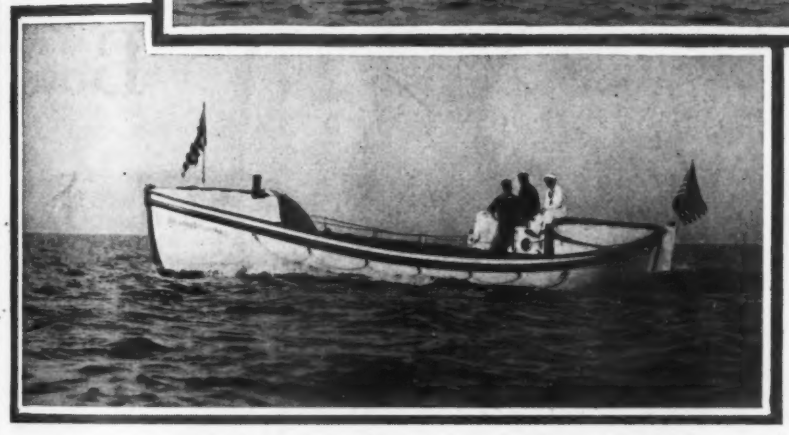
Crossing Lake Michigan. Photograph taken in midlake from the coast guard boat while on the 120 mile run from Milwaukee to Manistee, Michigan

Turning the bow of Transcontinental into the Illinois River in August, 1925, I found it a very different river from the stream I had roamed with a canoe in 1911. The river has been transformed in those fourteen years from one of the most beautiful streams of the entire nation—rich in bird and fish life, to a foul-smelling, filthy, open sewer. The blame for this condition must be placed squarely where it should go, and that is upon the city of Chicago. Anyone who travels up the Illinois River today, and sees the condition that the pollution from Chicago's sewage has caused, may righteously accuse the city of slovenliness, greed, selfishness, and an utter disregard for the rights of the people living down the Illinois and Mississippi River Valleys. The writer believes that if a representative lot of Chicago citizens could be taken down the river and shown what their city has done, they'd go back to Chicago and clean house with the city government from cellar to roof, if that might be necessary to accomplish an ending of the imposition their community has inflicted upon its neighbors. In justice to Chicago, however, it should be stated that steps are now being taken to put a stop to the pollution which the Chicago Drainage Canal has caused in the Illinois and Mississippi Rivers. But, the task is a complicated engineering feat that will require at least five years for realization.

Years ago, someone who was evidently a skillful, paid propagandist, set in motion the theory now widely credited, that—running water purifies itself after flowing a certain distance. But, to anyone who is sufficiently gullible to accept that theory, I would say: Take a look at the liquid pouring out of the Illinois River into the Mississippi. Nineteen-twentieths of it is said to be the pure uncontaminated water from Lake Michigan that flows down the Chicago Drainage canal. The remaining twentieth is sewage and the comparatively small amount of water which the Illinois River accumulates from a number of tributaries. In spite of the fact that the water flows 325 miles from Chicago to the mouth of the Illinois River, it pours into the Mississippi as an evil-smelling mass of filth that is utterly indescribable.

Our camp on the Mississippi opposite the mouth of the Missouri

Hauling out of Little Traverse Bay at Petoskey, Michigan, for the portage to Crooked Lake



The life saving boat of the Milwaukee station of the Coast Guard, under Captain Kincaide, accompanied Transcontinental across Lake Michigan

If that water has purified itself, or is in any way improved by reason of the distance it has flowed one's optical and olfactory nerves would have to be paralyzed to permit him to believe it. Moreover, if it is fit for human use by the time it mixes with the Mississippi and is pumped up by the municipal waterworks at St. Louis, I'm ready to phone the nearest insane asylum and tell them to get me a room ready.

While the Illinois River is still just as beautiful a stream to the eye as it was fourteen years ago, one needs a gas mask or a clothes pin on his nose in order to appreciate the beauty of its shores. The boat channel has a minimum depth of about seven feet, and is well buoyed and lighted. From the standpoint of navigation it was one of the easiest streams we traveled on the entire ocean to ocean cruise. But, at the end of our first day's cruising on the Illinois we were cured of the camp habit. Instead of attempting to camp in an atmosphere that was nauseating enough during the days, we tied up in front of a town each night. If the town had more than one hotel we selected the one that was the farthest from the river.

After driving up the Illinois on runs that averaged 50 to 60 miles each day using both motors to increase our speed against the drag of the current, we launched at noon on August seventh at Pekin, Illinois, and then shoved

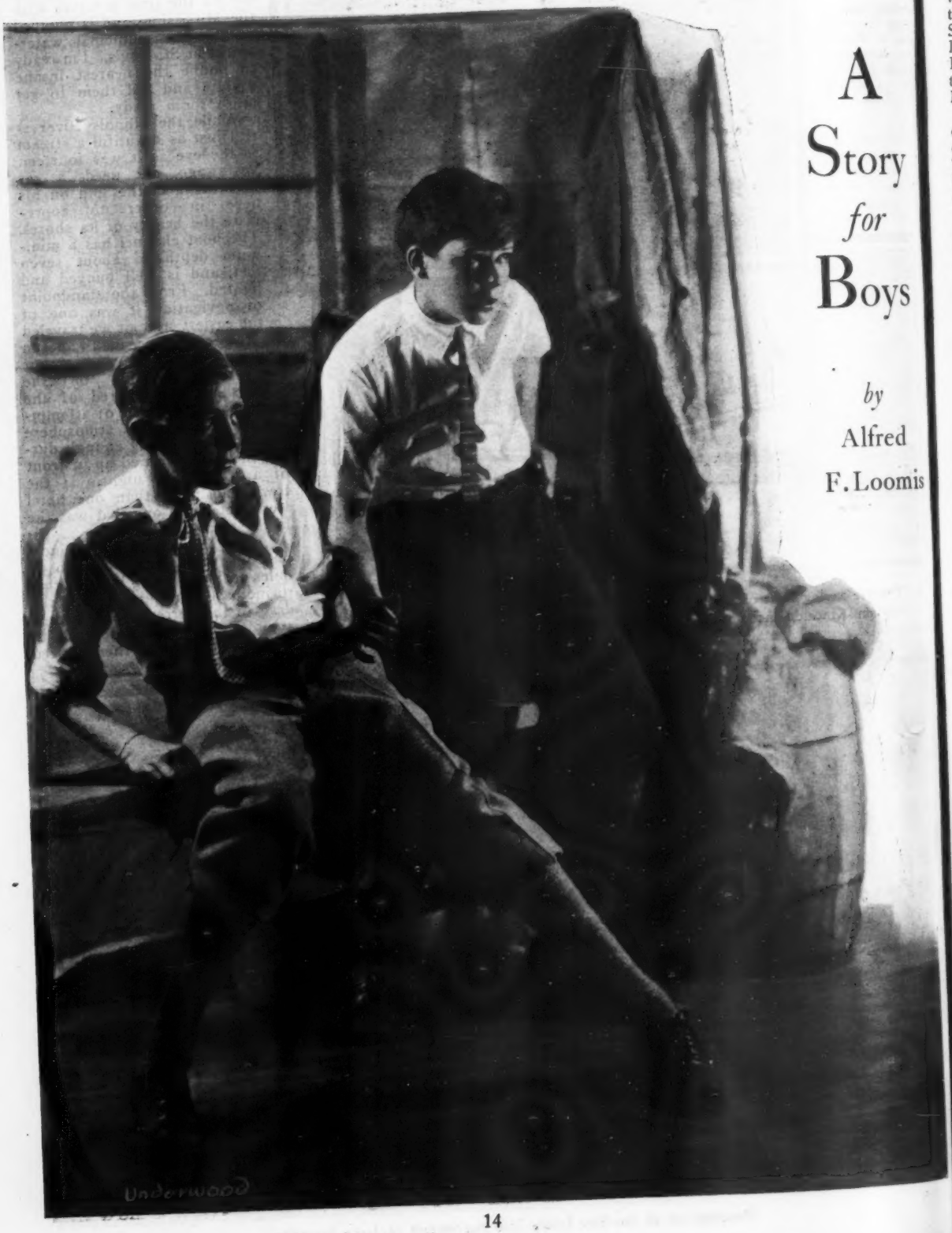
(*Continued on page* 44)

Passing out of the Soo Locks into the waters of Lake Superior

PINK CLOUDS

A Story *for* Boys

by Alfred F. Loomis



IF Fred Beecroft and I had given a thought to a pinkish strip of clouds high up in the evening sky at Playa Cuilio, we should never have made our canoe trip to the San Blas country. But Fred hadn't lived in Central America for more than three months, and I didn't know any more about tropical weather than a polar bear. So off we went and back we came, and——

But wait a minute. I'll have to explain how we came to be in Playa Cuilio. Fred belonged there, because his father had charge of the San Blas Ore Company's manganese mine, and Fred had been spending the summer with him. But up to the day when we saw (and forgot) that skim of pink clouds I had never heard of Fred or of Playa Cuilio.

One day when summer vacation was half over, my father collared me as I was busting out the door with a tennis racket in my hand. "Here, son," said Dad, "not so fast. You're booked for a tropical cruise on one of our ore colliers, the S. S. Ophir. She sails from New York tomorrow for the Caribbean, and you're to ship on her as assistant supercargo. You'll draw a dollar a day and you'll have nothing to do but pick up a little Spanish as you go, and broaden your mind with travel. Any objections?"

"Nary an objection, Dad," I cried, scaling my tennis racket into the rubbish closet under the stairs. "I'll wrap my tongue around the Espagnol, all right, but I'm not so sure about broadening the little old mind. Give it time, Dad, and let it grow."

Dad frowned a little. "You will be under Captain Rigg's orders afloat," said he, "so I have only one warning to give you. Don't come back from the tropics loaded up with parrots, monkeys, and horned toads. Go pack your bags and, er, get a haircut."

My father is like that. Free and easy, but unsentimental. He knew I'd been looking forward to this tropical cruise for years, but he wanted to head me off from thanking him. And he hoped I'd know how to handle myself away from home without a lot of advice.

So the next day I sailed aboard the S. S. Ophir. Oh boy! to be the only passenger on a freighter, and to have the run of the bridge and the crowsnest and all. Why, for three weeks I had the time of my life, up in the radio shack, down in the shaft alley, in the engine room, chart house—everywhere. And asking questions of everybody from Captain Rigg down to the cook's helper. Funny I never happened to ask about pink clouds in the tropics.

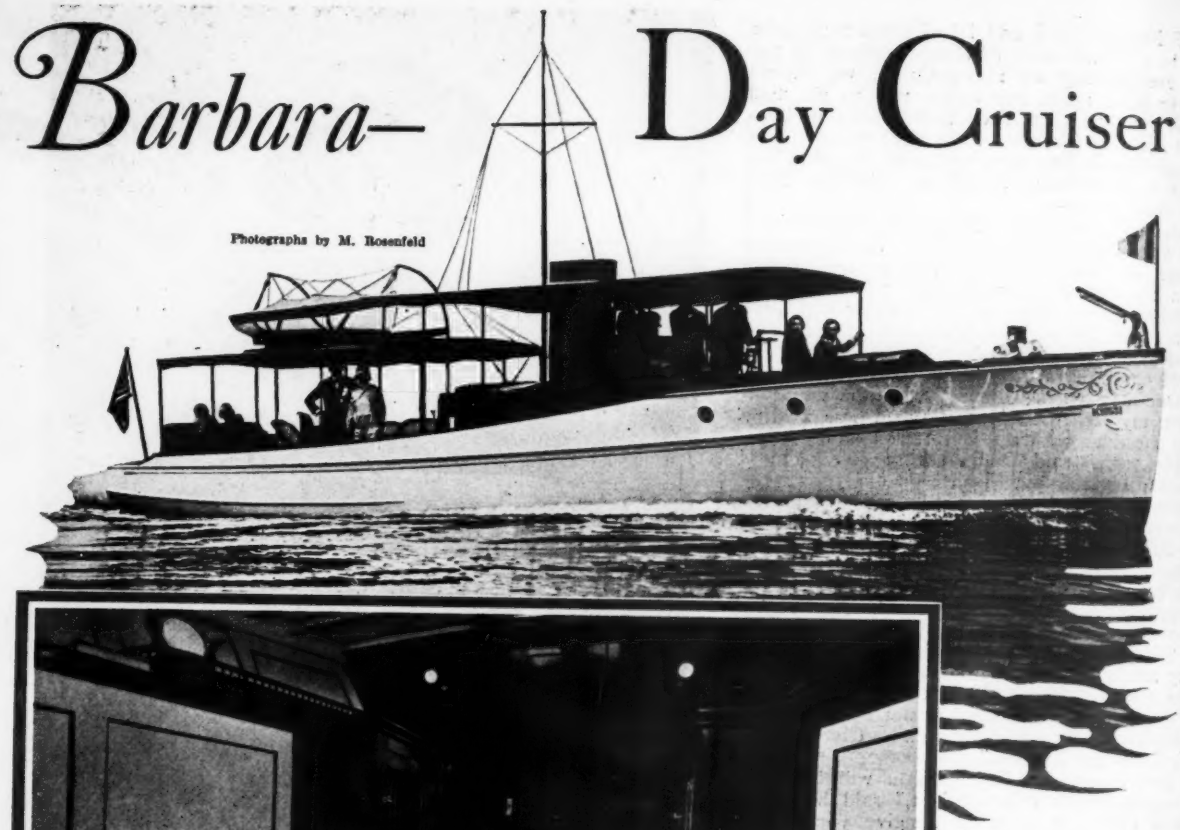
Playa Cuilio, on the isthmus of Panama, was our last stop before heading back to New York. We put in there to complete our cargo of ore, and when we had dropped anchor and made fast to a flimsy dock sticking out into deep water, I hopped ashore. We had already visited Cartagena and Colon and other places where there's civilization, but this was my first sight of the tropical wilds.

And it was wild. There was a sort of half harbor formed by an island called Cuilio Cay which the captain said was all right in good weather. In a storm he said a steamship would be blown right up into the jungle. The dock was on the mainland and when the Ophir lay with her starboard side to that dock her port side almost touched the island, and she looked seaward with nothing but a sunken reef of coral (*Continued on page* 48)

Just then Sergeant Nunes entered the shack, looking like a comic opera soldier. He wore a khaki uniform, and on his head, in spite of the heat, he carried a tin trench helmet

Barbara— Day Cruiser

Photographs by M. Rosenfeld



Barbara is owned by E. D. Gould of the Truly Warner Company, who has fitted her with a Sterling Dolphin Medium six cylinder engine of 5¾ by 6¾ bore and stroke, which drives her in excellent shape

Designed more particularly as a day cruiser, Barbara is comfortably furnished but not arranged to sleep a large number of persons. The cabin arrangement provides a pair of transom berths which are sufficient

The arrangement of the after cockpit is unique, it is just a large unencumbered space in which are a number of easy wicker chairs in which the utmost in comfort and relaxation can be obtained

Motor boats with outboard motors now dot our waterways everywhere. Ten thousand of these little boats are being added to the fleet every year.

Outboard Racing Becoming Popular

Many New Events Scheduled for Valuable Trophies— American Power Boat Association Formulates New Rules

INTEREST in racing among craft powered with outboard motors is developing so rapidly that in many of the events of 1925 it was found that the more or less incomplete rules, which were available for conducting such contests, were inadequate. Therefore, at the last annual meeting of the American Power Boat Association held in October, the Racing Commission of that organization was instructed to confer with all parties interested in outboard motor racing and obtain their suggestions as to what points rules for outboard racing should cover.

With that end in view the Racing Commission of the American Power Boat Association has been actively engaged in formulating a set of suitable rules and at a meeting of the representatives of all outboard manufacturers held in New York during the Motor Boat Show week, the Racing Commission presented a set of rules which in their opinion best represented the consensus of the ideas of all those interested in this form of racing.

Present at the meeting were representatives of the Johnson, Evinrude, Caille, Elto and Lockwood-Ash motors, all of whom had previously been requested to submit their views to the Racing Commission of the American Power Boat Association.

An all day's conference on the rules, was held at the Hotel Biltmore with the result that rules were decided upon which met with the entire approval of all persons present at the meeting.

On the whole the new rules for outboard racing are not very different fundamentally from those used in the past with the exception that the manufacturers of outboard motors agreed among themselves that they, as manufacturers, would take no direct or indirect part in racing but would leave the sport open entirely to amateurs in the strictest sense. No doubt this agreement is a very wise move which should tend to greatly broaden the scope of outboard racing and create a country-wide interest in such events.

It was the aim of the meeting to decide upon as simple a set of rules as possible, yet to make them adequate for the various forms of outboard racing today, both for informal events at the farthest away, remote inland lake as well as for championship events at the National Regattas.

Much of the credit for formulating the new rules should go to Bruno Beckhard of Flushing, Long Island, one of the country's most enthusiastic exponents of outboard racing and chairman of the outboard division of the Gold Cup Committee.

The new rules for outboard racing follow:

(*Continued on page* 136)

IMPORTANT NATIONAL EVENTS FOR OUTBOARD MOTORS

March 4, 5, and 6, Tampa, Fla.
March 18, 19, and 20, Miami Beach, Florida for Colonel E. H. R. Green, Star Island Gold Trophy.
April 2, and 3, St. Augustine, Fla.
July 3, 4, and 5, Mississippi Valley Power Boat Association Annual Regatta.
August 21, and 22, Gold Cup Regatta, Manhasset Bay, N. Y.
September 4, 5 and 6, Detroit, Mich.
September 11, and 12, Philadelphia, Pa., Sesqui-Centennial Regatta.
September 18, Washington, D. C.

A High Speed

THE close of the year, 1925, saw the completion of a remarkable steel motor yacht, Shadow K, the new high-speed Diesel craft, built for Carl G. Fisher. This hull was designed by Purdy, and built at the yards of the Consolidated Shipbuilding Corporation, Morris Heights, N. Y., where many of America's most famous yachts have come into existence.

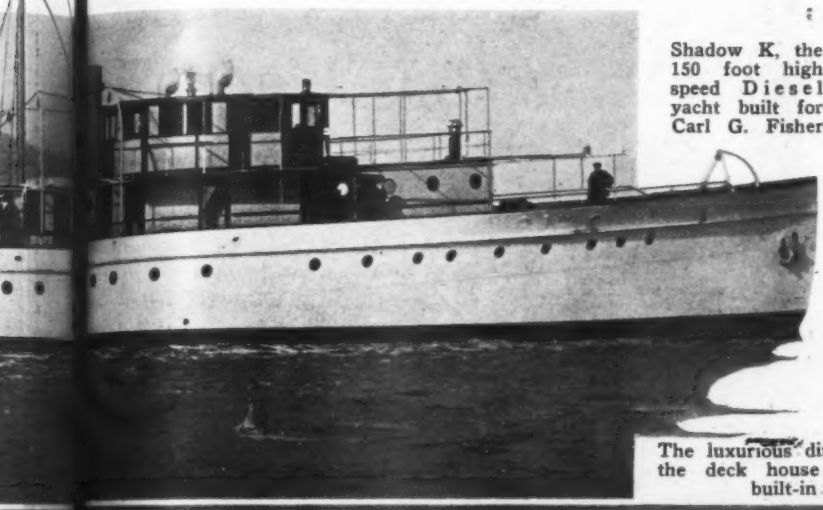
Shadow K is an unusual craft in many respects. Her outboard appearance of grace and beauty is not only appealing, but suggests the lines of previous Shadows, the development of which have been largely due to the ideas of her owner, Carl G. Fisher.

In this newest boat, the flare forward has been emphasized, while a tumble home stern and an outboard rudder have been incorporated. One might almost refer to the new Shadow K as one of the baby Shadows grown up.

The interior suggests the creative genius of

A corner of the galley and butler's pantry on Shadow K

DIESEL Yacht



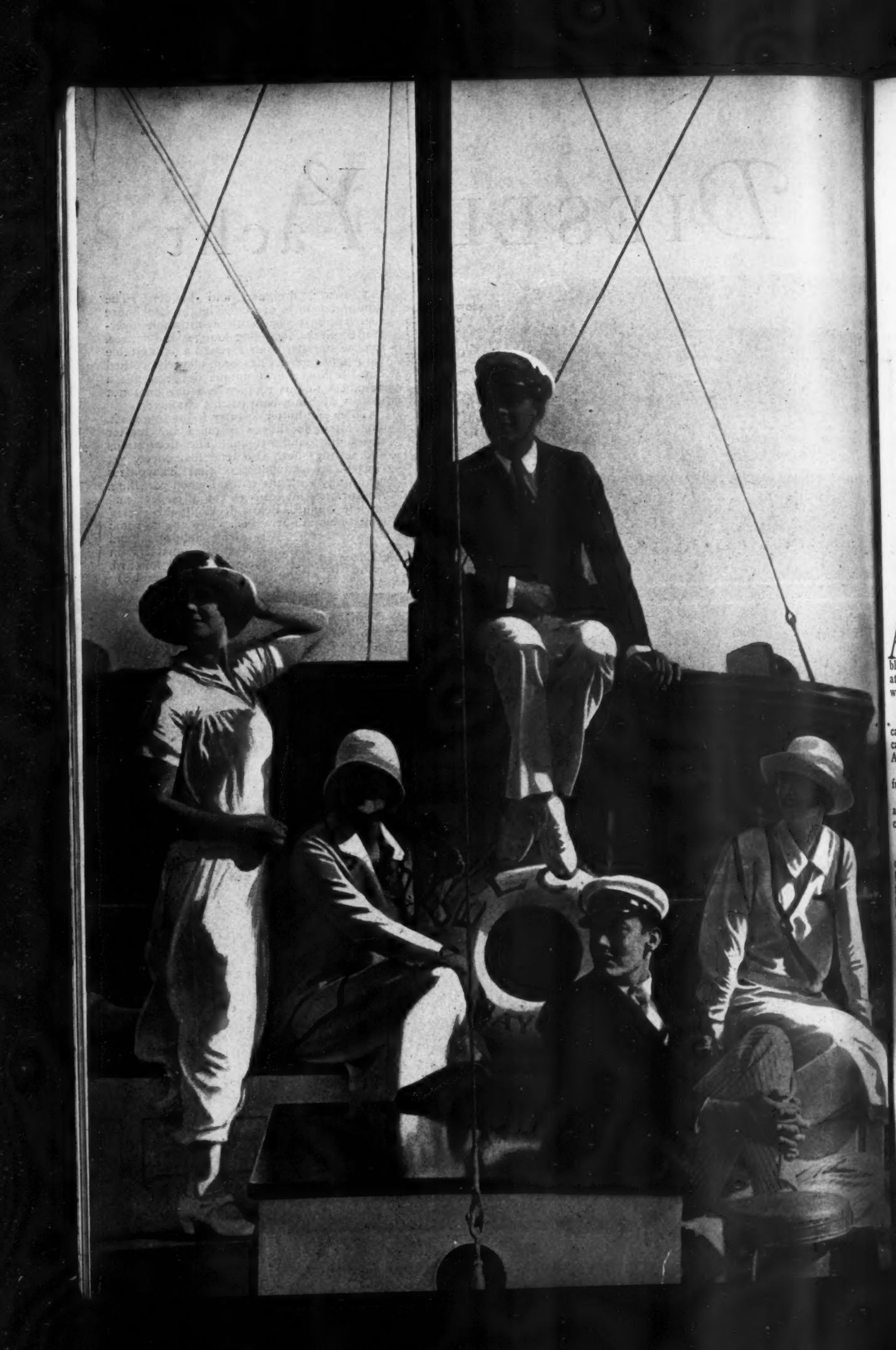
Shadow K, the 150 foot high speed Diesel yacht built for Carl G. Fisher

the owner, designer, and builder. The dining saloon is arranged in the deckhouse forward, furnished with comfortable overstuffed pieces, including lounges and settees. On the starboard side forward a dining table with built-in seats has been cleverly worked out. A fireplace of unique design, lends a hominess to this room which one does not usually find in a boat of this character.

Galley and butler's pantry follows next aft. The after deckhouse includes the master staterooms, and saloon. The decorations and settings here also tend to modesty yet convey an exquisiteness that harmonizes beautifully with the natural wood panelling. An entrance aft leads to the after deck and outside lounge. Below decks aft the guests' staterooms are arranged. The engine room is about amidships and the crews' quarters in their usual place forward.

(*Continued on page* 138)

The luxurious dining saloon in the deck house forward has built-in seats



WATER—
The Safest Place on Earth

By Alexander Mead

SOME time ago a friend of mine, a motor boatman, told me that while he enjoyed his boat, lived on board and cruised extensively, still he was afraid of the water. "How do you explain it?" he asked. I couldn't! Another man told me that he would buy a boat except for the fact that his wife was terribly afraid of the water.

What is this fear anyway? Why do people have it? Where does it come from? And can people get rid of it?

In this article, Alexander Mead answers these questions. Read it! You'll enjoy it even if you know not the meaning of fear! And then, done with the article, pass it on to some friend who is afraid of the water. And do him a real honest-to-goodness service!

ALONG about the middle of September, I think it was, we had a nasty North-west blow down in Manhasset Bay. During the hardest part of the blow, when the waves were piling high and the wind was at whole gale strength, I stood on the Fisher dock. I was enjoying the storm.

"Great, isn't it?" I yelled to a man who stood near me.

He shook his head. He pointed out to the white-capped bay. "I'm afraid I'm not much of a sailor!" he called back. "I like the water but I'm afraid of it!" And he shook his head.

And then in the lee of the boat house we chatted further.

"Yes," he repeated, "I like the water and yet I'm afraid of it! It it wasn't for that I'd have a boat, for certainly I'm tired of this motoring business."

"Why afraid of the water?" I asked.

"Well, to tell you the truth I don't know! I've never owned a boat and in fact have never been on a small boat; and have been on large boats only once or twice for that matter. From what all you fellows say it must be great sport—beat motoring all hollow—but I'm afraid of the water and that's all there is to it!"

When Chap gave me this assignment he told me of a friend, a motor boatman who enjoyed his boat and enjoyed cruising; and yet at the same time confessed to a fear of the water.

And if you'll take the trouble to inquire among your friends, among people you meet, you'll be surprised at the number that will tell you they fear the water. Very likely they'll not use the word fear, for to the man in the street, that word connotes cowardice and no one is willing to admit that failing. They'll say, these friends, that they "don't like" the water. In the majority of cases, however, that "don't like" is predicated upon fear.

Of course, it is hard for you, an experienced motor boatman who is not afraid of the water, to understand such a feeling. If a person confessed such a fear to you, probably you would smile, shake your head and say, "Well, isn't that funny! I don't see anything about the water to be afraid of!"

And yet a little careful thinking on your part would develop a fear of yours that would seem to the man-afraid-of-the-water, to be just as funny as his fear appeared to you. For example, perhaps you don't like to walk under a ladder, or sit down thirteen to a table, or open an umbrella in the house, or accept a knife from a friend, or to be the third man to light a cigarette from one match. These are superstitions; but superstition is nothing but a form of fear. Very likely if you were to confess your pet fear to your afraid-of-the-water friend he would say, "Well, now, isn't that strange! I don't see anything to be afraid of in that!"

All of which means that you and I and Tom and Dick and Harry have our pet fears. Perhaps not the water. Perhaps we flirt more recklessly with the number thirteen. We may, nevertheless, have a fear of wind, or of lightning, or of closed-in places, or of high places, or of elevators. I mention that last because I have a friend who has a real fear of elevators. He'll walk up six or seven flights of stairs before using one. My pet fear, and I'm not ashamed to admit it, is a fear of closed-in places. It is with the greatest of difficulty that I sleep in a Pullman car. When I draw the curtains I have a feeling of suffocation. I can't stand the shades of a room drawn down at night. I am conscious of a feeling of oppression when I step into a small office, the one window of which looks out to a court.

I say I'm not ashamed to admit such a fear; and there is no reason why I should be, no reason why anyone should be backward about confessing such a feeling. For the fear instinct is the most primitive of all instincts. It comes down to us from remote ancestors who had to live in a constant state of fear in order to survive. When Mr. Horace Stoneham of the Palaeolithic Age stepped from his hut in the morning he did so, not with care free manner and jaunty air as you step from your house, but rather warily, cautiously. He rolled back his front door slowly and peered out most carefully for he did not know but what some friend might be waiting outside to land a husky club on his head. And even with so much danger in sight, he proceeded into his front yard with fear and caution lest a playful triceratops jump on him and dispose of him in one gulp. Fear of these dangers, being always on the alert for them, was absolutely necessary. And we have inherited that instinct; that is, we have inherited fear as an emotion.

In some respects this heritage is annoying; in other respects it is a good thing. It is annoying because it has a tendency to spoil some of our pleasures. For

By Waters to GOTHAM

Part XI

By Lewis R. Freeman

Through to New York

Boat on one of the Thousand Islands of the St. Lawrence, with cover at full extension to sleep under

An Interesting and Adventurous Voyage in an 18-Foot Row Boat Powered with an Elto Outboard Engine, Which Began at Milwaukee, Wisconsin, and Terminates with This Chapter in New York City

AFTER two days at the Douglas home place, Northcote Farm, I pushed off into Clear Lake to continue my voyage to Lake Ontario. There is a heavy descent between the attractive little resort town of Lakefield and Peterboro, most of it made at the big lift-lock just above the latter. Spending the night in this beautiful and prosperous home and industrial city, I lingered an hour the next morning for an all-too-hurried visit to the Peterboro Canoe Works, probably the finest plant of the kind on the continent. I had known the staunch and useful little Peterboros on most of the major rivers between the Yukon and Amazon, and it was an interesting thing to see them in process of coming into being.

The persistently strong southerly wind gave me a bumpy passage down Rice Lake, but narrower waterways beyond afforded quieter waters. Passing two more flights of locks before dark, I found further progress barred over the week-end by a rule against Sunday operation. The delay was more than compensated for by the fact that the day was spent in the company of a fine old chap called Sergeant Messenger, the lock-keeper, who turned his office over to me for a sleeping room.

Messenger's was a splendid record. After serving two or three full enlistments in the Indian Army, taking part in campaigns in Burma and on the Afghan frontier, he had come to Canada to settle down. Well into his fifties when the World War broke in 1914, he had managed to get himself accepted as a gunnery instructor, which finally led up to three years active service with the Canadian artillery in France.

Practically every lock-keeper in both the Trent and the St. Lawrence River canals were ex-service men, and I have no doubt that time and opportunity to get acquainted would have revealed many another record just as fine as that of good old Sergeant Messenger.

Locked out of the last gate on the Trent River, a little after noon on my second day of running from Peterboro, a half hour down a broadening river took me under the Trenton railway bridge and to the shores of Lake Ontario. From here I had been assured that the long, land-locked Bay of Quinte would give me protected water nearly all of the way to the mouth of the St. Lawrence. But I now discovered that this straggling, winding inlet, which had looked scarcely more than a broad river on my small-scale chart, had an average width of a number of miles. With the whistling lake wind, this proved quite enough to set a good smashing line of seas running. There was a double line of surf breaking against Trenton breakwater, and a fluttering of white-caps as far as the eye could reach.

With no prospect of a change of weather or a shift of wind, there was nothing to do but to bang through to the lee promised by the outer line of islands, and then work easterly as opportunity offered. It was a rough

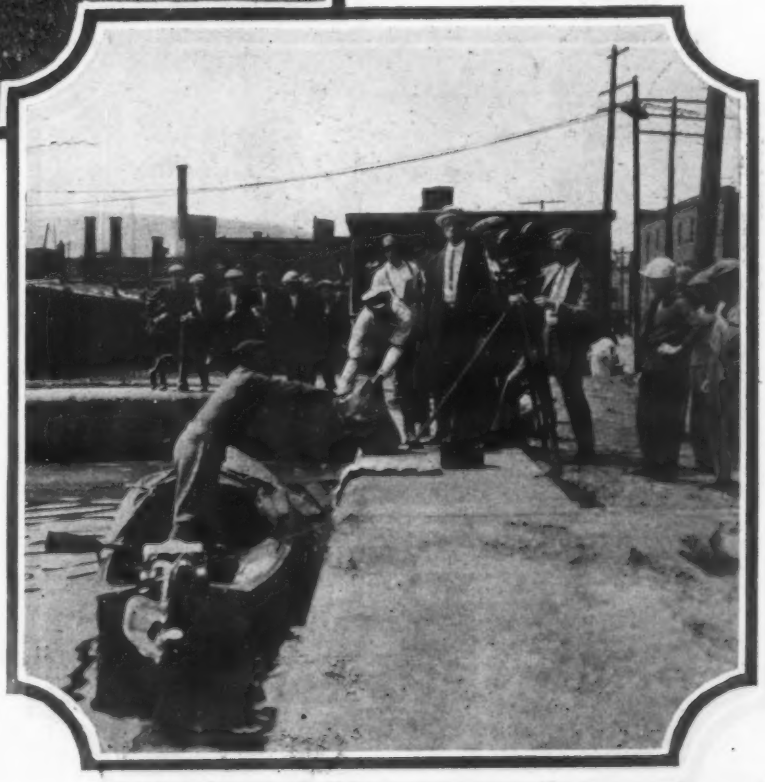
Champlain Memorial light house. The land view is marred by the old house

run across, with the baling bucket busy from the moment the breakwater was doubled. Then there was quieter going until the bay began to broaden out a few miles beyond the railway bridge which crosses the shallows opposite Belleville. I should hardly have ventured on this wind-swept expanse of open water at all had not a very pretty eighty-foot schooner, running only under power, at the psychological moment on the identical course I would have to follow to make the lee of the next island. Running my spray-hood back a few feet more, I tanked up again and headed off on a parallel course.

That would have been a wet passage even at reduced speed; running wide-open to keep station with my adopted consort, it was cataclysmic. Water gained on me steadily in spite of all I could do with the baling bucket, a circumstance, however, which was robbed of most of its menace by the fact that there was little doubt that the boat would be taken in tow even if it did swamp. Just the same, I was heartily glad to nose into the quieter waters in the lee of the island and run on to a safe mooring behind the dock of a pretty little hillside village which was just recovering from the effects of a fire which had all but wiped out its business section.

Running in a beautiful landlocked series of passages the next morning, the wind did not become an element to be reckoned with again until nearly noon. By that time I had passed the most easterly point of the sprawling peninsula, behind the shelter of which I had been running all the way from Trenton, and was heading across the wide passage to the west of Amherst Island. Broadside on to the seas rolling in from the storm-swept lake, I was soon taking water aboard at a rate which made highly welcome the appearance of the deck of a fishing-boat harbor on the northern or mainland side of the long bay. Here, in a quaint old village founded a couple of centuries previously by a colony of religious refugees somewhat akin to the Puritans, I stood-by until a temporary lull in the wind an hour before daybreak made small-boat navigation practicable again.

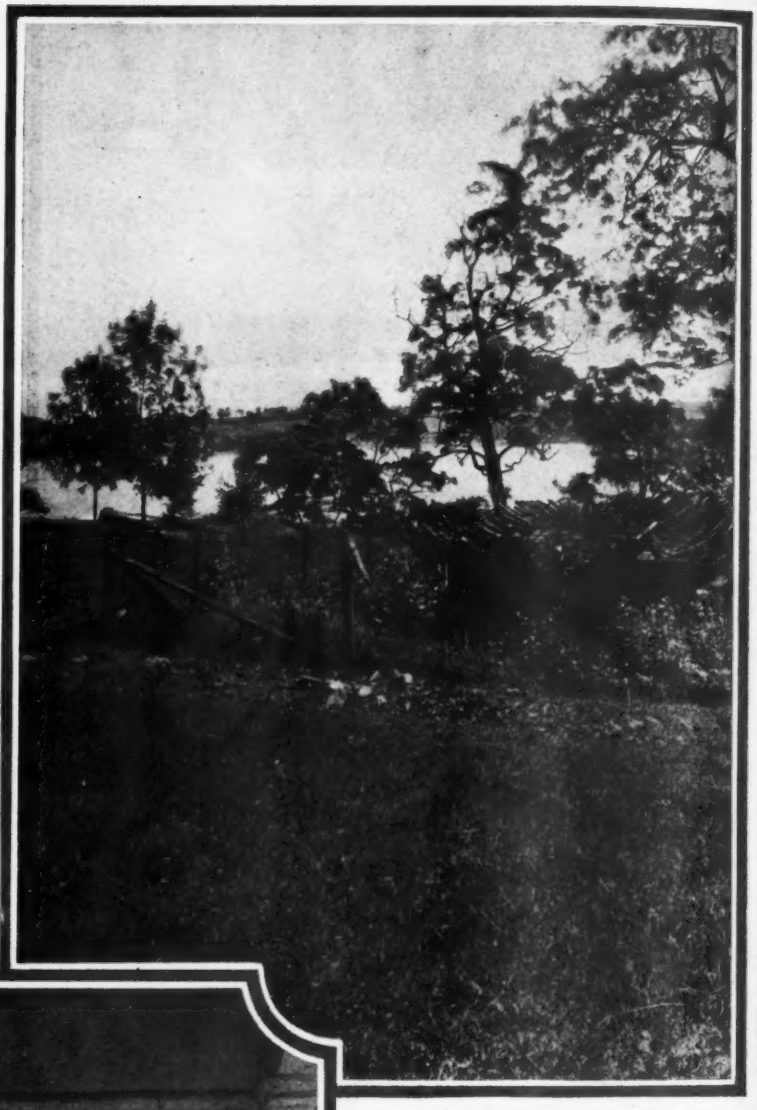
I made good progress until the



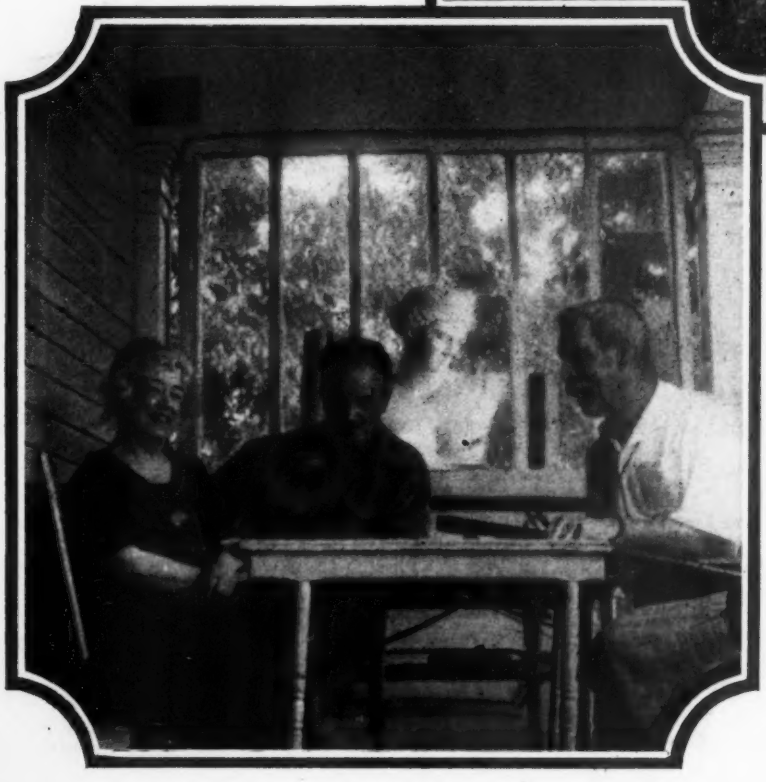
News photographer filming the arrival at Montreal

lake-wind came up with the sun, and then had a touch-and-go run of the open passage between Amherst and Wolfe Islands. Reluctant to give up with the spires and stacks of Kingston already in sight, I kept plugging along until the rolling beam seas lost their sting as they were brought quartering and finally astern. By mid-forenoon I was snugly berthed at the dock of one of the St. Lawrence River steamship companies.

The site upon which the beautiful little city of Kingston is built originally gained importance from its command of the entrance to the St. Lawrence. Frontenac built a fort there in 1673, and shortly afterward this was turned over to La Salle, with the privilege of founding a colony and establishing a settlement of domesticated Indians. La Salle was growing rich from fur-trading profits when the lure of exploration drew him West and he departed upon the expedition which discovered the upper Mississippi but ultimately resulted in his death. The fort was destroyed and abandoned to the Iroquois toward the close of the seventeenth century, the sequel to an unprovoked massacre of those Indians instigated and carried out by the French. Restored and regarrisoned a few years later, it was captured and provoked massacre of those Indians ing the French and Indian War. The



The remains of Benedict Arnold's flag ship Revenge, at Fort Ticonderoga. It was sunk in action with British and only recently raised



A visit to the veranda of the Poultney Bigelow Home. Mr. Bigelow at the right

keystone of Canadian defense against the American colonies and the young republic which followed, Kingston has lost its military importance as relations between the States and Canada have improved to a point that all but wipes out the political boundary. It is best known today as the home of a Canadian military academy similar to the American West Point.

A French-Canadian pilot of one of the steamers running the river to Montreal, learning that I desired to make the run as expeditiously as possible, gave me a set of large-scale charts and spent an hour laying out the shortest course. He thought it would be all right to run all of the rapids down as far as the Long Soo, but advised strongly against attempt-

(*Continued on page* 118)

All FLORIDA Active with Racing Events

Regattas at Palm Beach, Sanford, Key West, Tampa, Miami Beach, St. Petersburgh, St. Augustine, and Jacksonville Interest Thousands of Yachtsmen But Tax the Facilities of Racing Men and Racing Craft

AS this is written, snow banks six feet high and ice floes a foot thick surround the Gold Cup race course on Manhasset Bay, Long Island Sound, where the motor boat championships of the country will be decided next August but the same boats which performed last August before thousands of spectators on this now ice bound course, are this very minute either going through their tuning up paces in various Florida waters preparatory to their racing events there in March and early April or else are southward bound via express car or steamer or whatever means of transportation is available to the land of everlasting sunshine and perpetual motor boating.

March and early April will mark the busiest period national motor boat racing has ever known. There are not enough week-ends to meet the demands from the many cities and towns of Florida located on protected waters which desire to stage motor boating activities. With the Palm Beach Regatta on February 20-22, Sanford on February 26, at Key West on February 28, we have events scheduled at Tampa on March 4-6, Miami and Miami Beach March 18-20, St. Petersburgh March 27, with St. Augustine and Jacksonville early in April.

At Tampa on March 4-5-6, plans have been laid for a regatta which should outshine anything which has happened so far in the South. With this regatta conducted under the auspices of the Davis Island Yacht Club and sanctioned by the American Power Boat Association, a new era in motor boat racing in this section of Florida is in prospect. D. P. Davis of Tampa is general chairman of the Race Committee and is assisted by Commodore C. F. Irsch and such other nationally famous racing men as Carl G. Fisher, Commodore A. A. Schantz, Clement Amory, J. Lee Barrett, Rafael Posso, Peter Morales, William Bruns, Gar Wood, Charles A. Criqui, Sheldon Clark, Julius Heilner, Harry B. Greening, Wm. McP. Bigelow, C. W. Chase, Jr., Webb Jay, O. J. Mulford, Alfred H. Wagg, A. I. McLeod, J. A. MacDonald, R. V. Williams, W. D. Foreman, H. Paul Prigg, Howard Robert Gamble, H. H. Sutphen, Richard Wastcoat, Frederick R. Still, Colonel E. H. R. Green, O. E. Sovereign, William E. Scripps, H. R. Duckwall, Scott J. Matthews, Wm. Hayes, H. A. Johnson, Frank P. Huckins, Roy Wright, Forrest Adair, Jr., George Milton Stevens, Jed Fiske, Joseph Elsener, W. G. Selby, Russel Thompson, J. W. Young, John LaGorce, Aaron De Roy, William Elridge, Odis Porter, A. Knauer, Chester Ricker, H. L. Stone, Wilbur H. Young, Irwin Chase, Walter B. Wilde, William Gibb, Ira Hand, John H. Wells, Howard W. Lyon, William Taylor, Ralph Kingsley, W. D. Edenburn, F. E. Demarest, James Hager, Fred Blossom, H. R. Chadwick, E. V. Rippingille, E. B. Donaldson, A. T. Griffith, Charles V. Kotcher and M. Rosenfeld.

Mr. Davis has reserved a considerable portion of his new hotel for visiting yachtsmen who attend the Tampa regatta and has arranged a very complete program of social activities.

(*Continued on page* 164)

The Elgin Trophy presented by the Elgin National Watch Co., to be awarded each year for the fastest time made by 151-inch hydroplanes

The Biggest Thing at

Not the crowds, nor the large number of exhibits, nor the great improvements; but, rather—

Photographs by M. Rosenfeld

IT is difficult to speak of the 1926 Motor Boat Show without using terms that are bromidic.

We might say that this Show will go down in history as the best show ever held. But it would be unfortunate, indeed, if we could not say that and with all truth. For surely, as time goes on, as one show follows another, as one year follows another, we grow, we progress, we do better work.

And the same thought would apply if we were to say that this Show of 1926 was bigger and better than ever. It was that, of course. A bigger and a better Show than last year, just as that Show was bigger and better than the 1924 Show; just as the 1927 Show will be bigger and better than the one that has just passed.

Shall we say, then, of this 1926 Show, that the attendance was greater or that more real interest in motor boating was shown, or greater enthusiasm or that more sales were made?

It would give us considerable concern as to the future of our industry if we could not say, and honestly, that these things were true, for it would indicate that we were at a standstill.

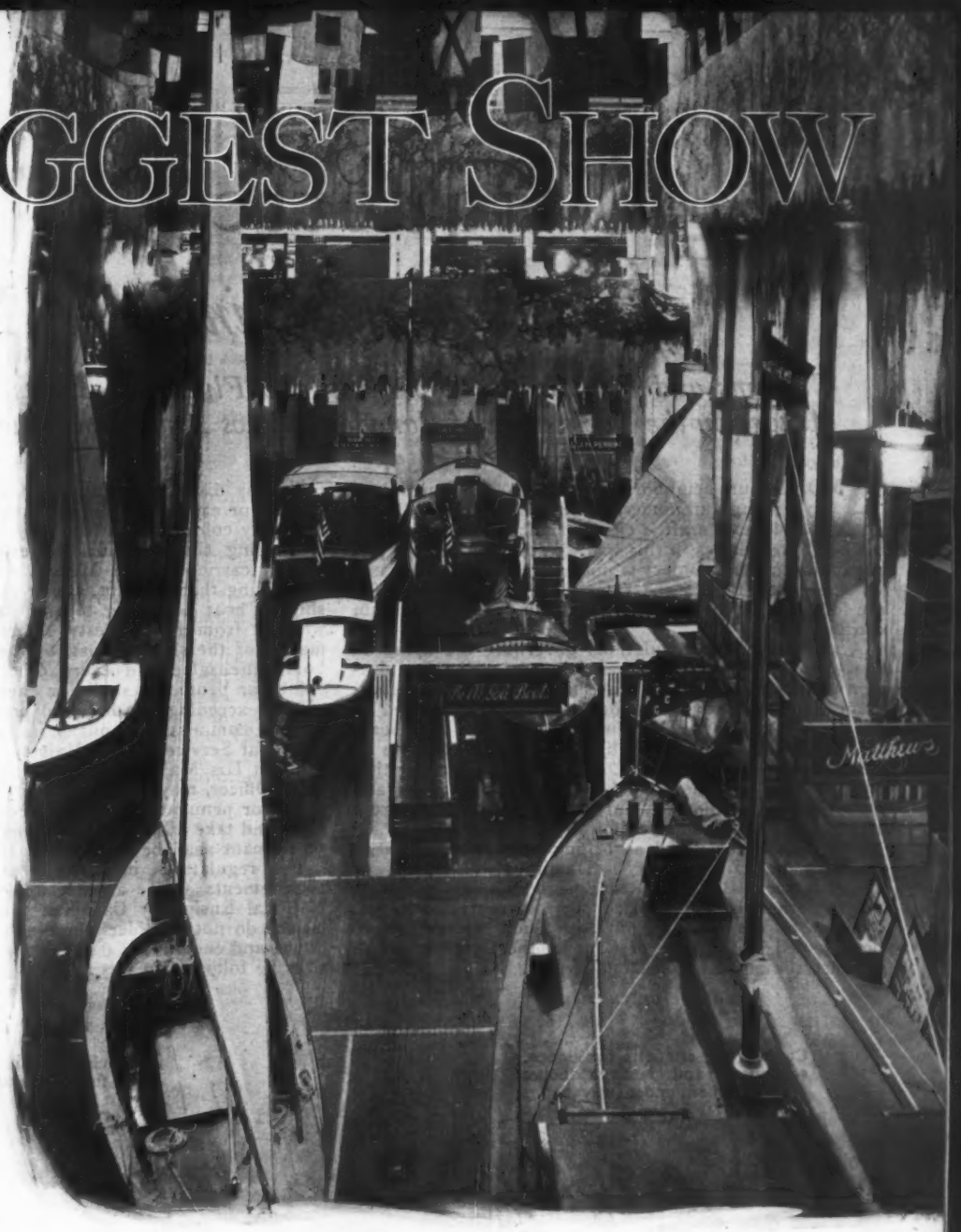
Shall we say, then, that the cruisers exhibited showed great improvement in design, improvement that helps to make motor boating the great sport it is?

It would be a sad commentary on our designers and boat builders if we could not say that, and with all earnestness.

What then shall we say? What is that undefinable something that was in the consciousness of all of us as we walked about the aisles, as we talked with the exhibitors, as we studied the crowds? That intangible something that made us proud of this industry, proud of our part in it. You felt it. I felt it. What was it, the biggest thing at the biggest Show?

Four years ago a man, a banker, came to us with an idea. It was, briefly, that there was a great future for the motor boat; greater future than the motor boat in-

the BIGGEST SHOW



The consciousness that the motor boat industry knows just where it is going, and is merrily on its way

dustry realized. His plan was that the smaller companies, and the larger ones too, for that matter, be gathered together and thrown into one great organization, a General Motors, shall we say, of the motor boat industry. Indeed, this man went so far as to suggest that some of the leaders in the motor car world might be interested; he intimated that he had approached one or two and had found them in receptive mood.

We discouraged this idea, this plan. Not because we did not welcome the thought of new-comers to our industry; nor was it because we did not want to see a great and prosperous organization in this—our field.

We discouraged this plan because we had faith in our boat builders; faith in the Sutphens, the Lawleys, the Matthews'; faith in men like Amory, Cornell, Criqui, Crouch, Erickson, Evinrude, Farr, Fay, Gregory, Grimm, Hacker, Hellmuth, Hickman, Johnson, Luders, Mulford, Riotte, Scott, Smith, Snow, Ware, Wood, Wastcoat, Young and others. We had faith that these men, at the right time and in the right way would grasp the opportunity and make the most of it. We know full well that we had vision within our own circle; a clear vision based on knowledge and controlled by judgment that was not to be influenced by boisterous enthusiasm or frantic vehemence.

What then was the biggest thing at the biggest Show?

This: That when Opportunity came along the motor boat industry was ready. When the public, weary of driving motor cars over crowded roads looked around for some other means of enjoying the great out-doors, the motor boat industry was waiting. There was no sudden awakening with dazed feeling, no hurry and bustle and scramble. It was as if this industry said, "Come on, Public! We know that you would come along when ready, in your own way and in your own time. And now, what will you have? Runabouts? Here are over seventeen standardized models to choose from. A cruiser? Here are many! (*Continued on page* 168)

Flag Etiquette in CANADA

Customs and Regulation Governing the Flying of Flags Afloat and Ashore by the Yachtsmen of Canada Follows American Practice Closely

AMONG our neighbors in Canada, the custom of flying flags at homes, yacht clubs, and on board the pleasure craft is closely similar to what is done in the United States in this way. While the custom and regulation on this subject is not entirely identical, it can be safely said that if the rules which will be set forth are followed for the flying of American flags, no criticism can be made.

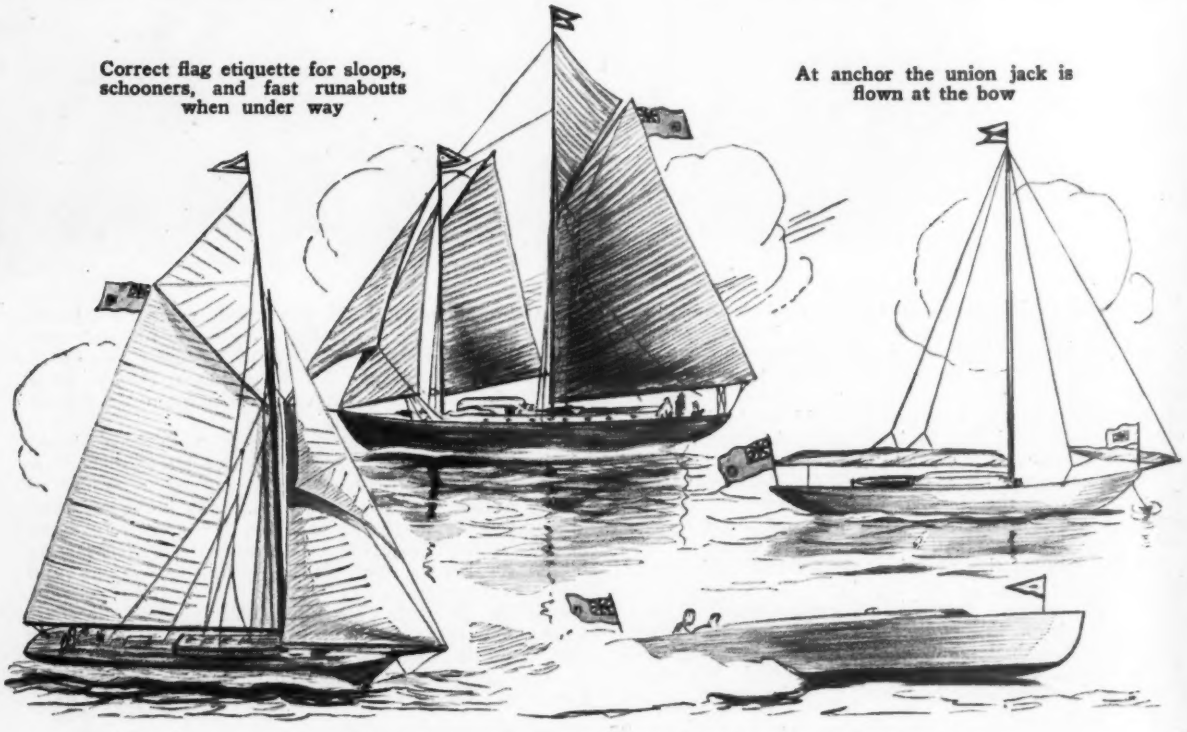
A portion of the regulations governing the flying of the Canadian Ensign reads as follows: "The Red Ensign usually worn by merchant ships, without any defacement or modification whatsoever, is hereby declared to be the proper National Colors for all ships and boats belonging to any British subject, except in the case of His Majesty's ships or boats, or in the case of any other ship or boat for the time being allowed to wear any other National Colors in pursuance of a warrant from His Majesty or from the Admiralty."

"All vessels registered as belonging to His Majesty's Subjects in His Majesty's Dominions, Colonies or Dependencies will fly the Red Ensign without any badge, unless otherwise authorized by warrant from His Majesty or from the Admiralty. Such warrants have been issued in the case of Canada, the Commonwealth of Australia and New Zealand."

"If any distinctive National Colors except such Red Ensign or except the Union Jack with a white border, or if any colors usually worn by His Majesty's ships or resembling those of His Majesty, or if the pennant usually carried by His Majesty's Ships or any pennant resembling that pennant, are or is hoisted on board any ship or boat belonging to any British Subject without warrant from His Majesty or from the Admiralty the master of the ship or boat, or the owner thereof, if on board the same and every other person hoisting the colors or pennants, shall for each offence incur a fine of not exceeding five hundred pounds.

"Any commissioned officer in full pay in the Military or Naval Service of His Majesty, or any officer of customs in His Majesty's Dominions, or any British Consular Officer, may board any ship or boat on which any colors or pennants are hoisted contrary to this act, and seize and take away the colors or pennant and the colors or pennant shall be forfeited to His Majesty."

The regulations mentioned cover the governmental requirements as far as they apply to the flying of the National Ensign by Canadian yachtsmen. These regulations do not consider where and how the flag shall be flown, and custom has dictated that certain specific practices be followed in this regard. For example, the most



Correct flag etiquette for sloops, schooners, and fast runabouts when under way

At anchor the union jack is flown at the bow

The club burgee is always carried forward and the Ensign aft

A single pole or mast has place only for an Ensign

A mast with a yard can carry several flags and a hoist of signals

frequent case which occurs would be the flying of a Union Jack from a flag pole or single mast ashore, at a camp or similar place. For this, there is only one condition, and that is to fly the flag at the top of the mast. No other flag should be flown at the same time as this, nor should two flags ever be flown from the same hoist.

A more elaborate pole mast, such as would be found at the shore station of a yachtsman who believes in being shipshape ashore also, would be one fitted with a yard, and with or without cross trees. In this condition the Union Jack should always be flown at the truck or mast head, while a courtesy can be extended to a visiting guest from another country by displaying an Ensign of smaller size from this country at the port yard. The starboard yard in such cases is reserved for hoists of code signals.

Another type of flag pole which is frequently met, would be a mast fitted with a gaff only. In this situation the Canadian Red Ensign would be shown at the gaff, with the owner's private signal or Club Burgee at the mast head. It is also permissible for a citizen of another country to substitute the jack (not the Ensign) of such other country, instead of the private signal, provided he does not also hoist his Ensign at the gaff.

A more complex signal mast is one of a type which includes a main and top, with cross trees, gaff, and yard. For this the Canadian Red Ensign is flown at the gaff. The club burgee or private signal would be flown at the mast head, and an Ensign of another country (smaller than the Canadian Ensign) would be shown at the port yard, as a courtesy to a citizen of another country. A citizen of another country has the privilege of flying his jack (not the Ensign) instead of his private signal, but in this case he does not hoist his Ensign at the yard. As before code signal hoists are shown at the starboard yard.

The rigging called for on these various flagpoles also follows rigid standards and a few remarks on this subject will clear the matter up. The cross trees should carry no halliards whatever, and should properly be fitted only when the rig comprises both main and top masts, although they are otherwise permitted.

A yard arm may carry additional halliards at intervals inboard from the original end halliards, and should properly be fitted only when the rig comprises both main and top masts, although otherwise permitted.

The gaff should carry halliards only at the peak, and should properly be fitted only when the rig comprises both main and top masts, although otherwise permitted.

No variation from the above is correct. On holidays and festive occasions, the flags of the signal code are used for dressing ship, provided they do not displace the positions of the flags as defined earlier.

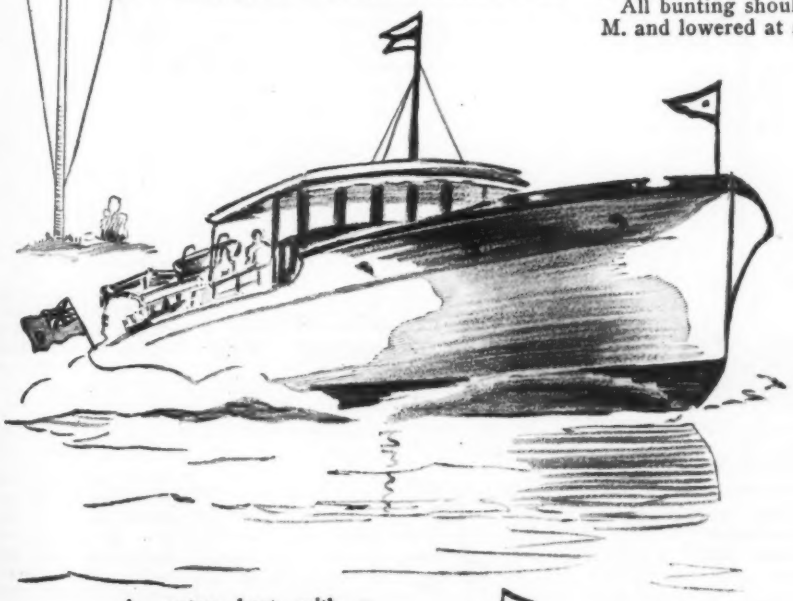
It is illegal to fly the Royal standard, and incorrect to fly either the White or the Blue Ensign, without special authority.

All bunting should be hoisted at morning colors, 8 A. M. and lowered at sundown.

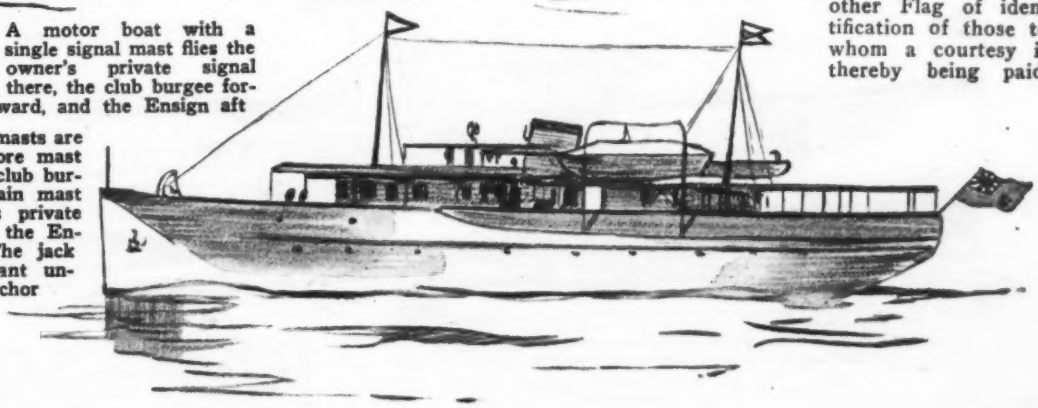
Except in the case of mourning or distress, all National colors should invariably be flown right side up and close up. They should never be draped or otherwise used.

The legends applying to bunting ashore will contain the general truths below, and should be followed out in all cases. In a fully fitted Signal Mast, the relative positions in their order of importance are as follows: The Main Peak is the post of Honor, the correct position for the display of The Canadian Red Ensign. The truck or Mast Head position, while higher from the ground, is inferior to the Main Peak and should carry only flags of identification; the Owner's private signal, or a Club's Burgee.

The port yard arm is reserved for the display of the National Colors or other Flag of identification of those to whom a courtesy is thereby being paid.



A motor boat with a single signal mast flies the owner's private signal there, the club burgee forward, and the Ensign aft



When two masts are fitted the fore mast carries the club burgee, the main mast the owner's private signal with the Ensign aft. The jack staff is vacant unless at anchor

Similarly the starboard yard arm is the point for display of code signal flags.

The reason it is incorrect to hoist the National colors of one country below the National colors of another country on the halliard, is that such is the world wide signal of conquest.

The proper order in which bunting should be hoisted is in the order of importance as mentioned above. At sundown they should be lowered in the reverse order.

Masts should always be stepped with forestay toward the frontage of the position.

The Union Jack without white border, may be flown ashore, as mentioned for single pole masts, but when afloat, the Jack must be bordered with white.

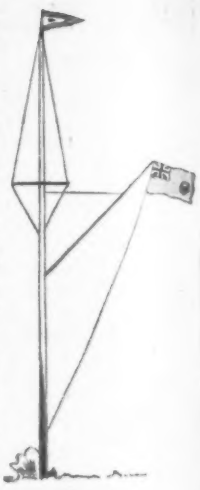
The requirements of proper flag etiquette which should be followed out when afloat, are equally rigorous and clearly defined. We will describe the more general type of vessels, both sail and power under Canadian registry or ownership and the correct display of colors on these. A sloop would carry at the main peak the Canadian Red Ensign, or if the owner holds an Admiralty Warrant, the Blue Ensign. At the masthead will be shown the club signal, while the owner's private signal should be entirely omitted or displayed at the cross trees. The Blue Ensign mentioned can be used only by yachtsmen who have the proper authorization, and its use is permitted in all cases under these restrictions.

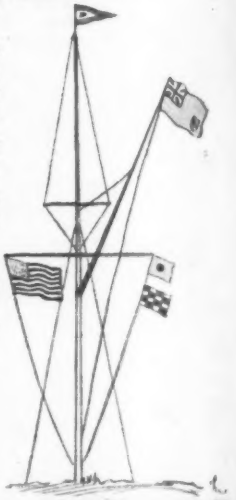
In the case of a two masted vessel, such as a schooner, or yawl, the Ensign is again flown at the main peak, with the owner's private signal at the main truck or mast head. The fore truck or mast head is reserved for the Club Burgee. When vessels of this type are at anchor or at their moorings, the position of the flags changes somewhat, and the Canadian Pilot Jack, which is the same as the British Jack, with a White border, is placed on a jack staff near the bow. The Ensign is also transferred to an Ensign staff, at the staff rail, and in the event that no staff is fitted, it may be flown from a halliard between the boom and the staff rail. The Club Burgee and the owner's private signal are permitted to remain in the same position they occupy, when the boat is underway.

In the case of motor vessels without a mast, which would include all types of motor boats and runabouts, there are only two flag positions open. The Ensign is carried on the Ensign staff at the stern, following universal practice, while at the bow on a jack staff, would be shown the Club Burgee, or when the vessel is at anchor the Pilot Jack. It must be remembered that only one flag should be shown on any staff at one time.

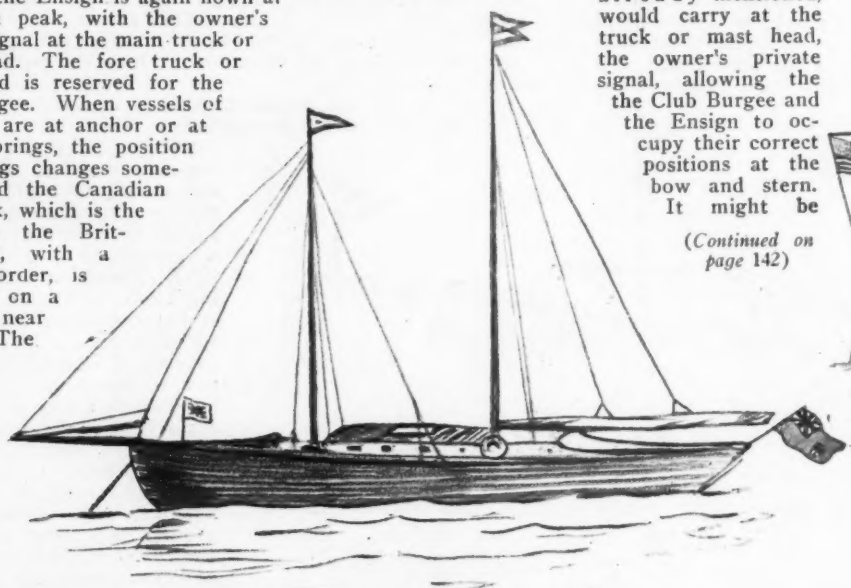
Such motor vessels as are fitted with a mast in addition to the two flag staffs already mentioned, would carry at the truck or mast head, the owner's private signal, allowing the the Club Burgee and the Ensign to occupy their correct positions at the bow and stern. It might be

(*Continued on page* 142)



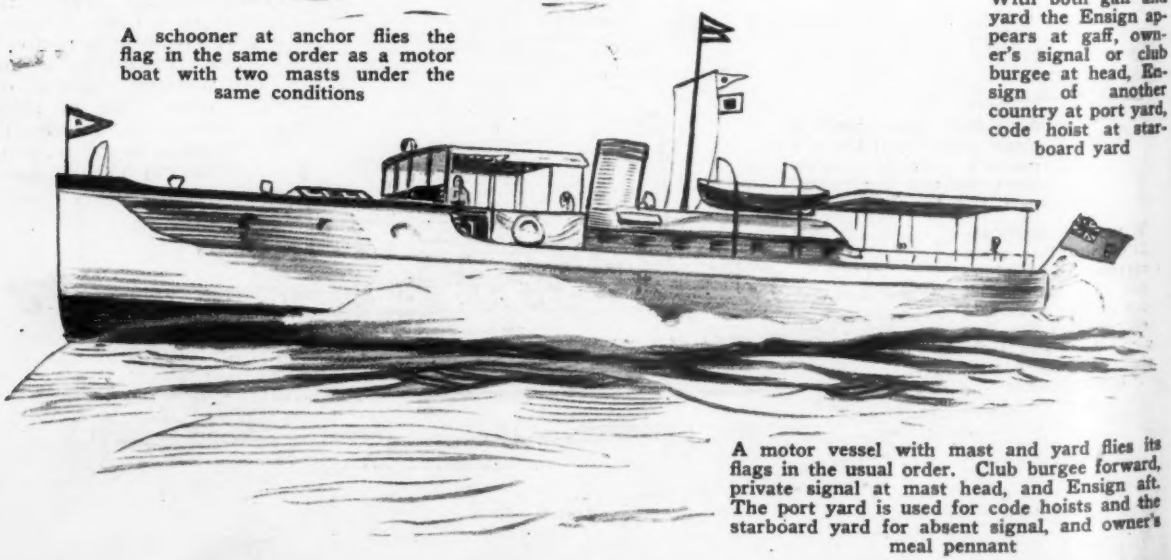


A pole mast with gaff carries the club burgee or owner's signal at the head and the Ensign at the gaff



A schooner at anchor flies the flag in the same order as a motor boat with two masts under the same conditions

With both gaff and yard the Ensign appears at gaff, owner's signal or club burgee at head, Ensign of another country at port yard, code hoist at starboard yard



A motor vessel with mast and yard flies its flags in the usual order. Club burgee forward, private signal at mast head, and Ensign aft. The port yard is used for code hoists and the starboard yard for absent signal, and owner's meal pennant

THERE'S NOTHING TO IT

By Frank Stevens

The Skill of the Yachtsman Motorist Has Advanced to the Point Where He Can Handle His Boat with Confidence and Skill. The Most Interesting Part of His Education Is Still to Come, and That Includes the Problem of Navigating the Boat So As to Be Certain of His Position at All Times

Part V — Piloting

NOW we come to the most interesting part of motor boating—Navigation. And navigation has been defined as, "The art of finding the geographical position of a vessel at sea, the most direct course to be steered in pursuit of the voyage, and the distance to be made."

Navigation is an art. Here is a ship on the high seas. She has been buffeted by storms and has steamed slowly through fogs. She has been out of sight of land for many days; and it will be many before she makes her port. But in the chart room there is an accurate map of her course. Ask her Navigator where she is on the great trackless ocean and he'll mark her exact position with the dot of his pencil. His reply may be given as Lat: 30° 32′ 12″ N, Long; 45° 25′ 10″ W. Perhaps this means little to you; but to him it is an exact position; just as the northeast corner of Forty-second Street and Broadway is an exact position or location to you. To determine the ship's position so accurately requires that the Navigator have an understanding of astronomical and mathematical laws; he uses trigonometry, plane and spherical. And he must be accurate.

For our purpose this art of Navigation falls into two major classifications: off shore navigation, and piloting. The first concerns itself with the navigation of a ship where her position is determined by dead reckoning and from observations taken on celestial bodies. Piloting, to quote Bowditch, is "The art of conducting a vessel in channels and harbors and along coasts where landmarks and aids to navigation are available for fixing her position." As the small cruiser is always in sight of land, unless temporarily blanketed by fog, piloting is the classification that interests us.

The instruments or tools needed in the art of piloting are as follows: compass, parallel rules or course protractor, lead and line, a good clock, Patent Log, marine glasses, stop watch, and of course, charts.

The compass has been described in preceding chapters; dividers you are undoubtedly familiar with—these are used to scale off distances on the chart; parallel rulers are used for drawing lines parallel to each other in any direction.

A word about parallel rulers vs. course protractor: Personally I prefer a course protractor rather than the rulers. The rulers are likely to slip; and secondly, the course or direction can be read much easier, in my opinion, from the protractor. I have experimented with various kinds and believe that the Cole Course Protractor is about the best. This instrument is used as follows: The celluloid rule is placed over the chart so that the center line of the rule intersects the North and South points of the compass rose; the dial is then turned so that the dial pointers indicate North and South on the dial, when the latter is fixed; any movement of the rule is now reflected by the dial pointers. The rule is moved so the center line intersects the points on the given course and the direction is read from the dial which is marked off to quarter points.

I have found this protractor very easy to operate and very accurate.

The lead and line is used to determine depth of water as well as nature of bottom—sandy, muddy, stony, etc., etc. The lead suitable for our purpose weighs about seven or eight pounds. It is hollowed out at the lower end. When it is desired to determine the nature of the bottom, the hollow space is filled with tallow (Crisco answers this purpose splendidly) to which clings a sample of the bottom when the lead strikes. This is called arming the lead. The line may be of any length you wish. I would suggest one of twenty fathoms (a fathom is six feet). You will find this plenty long enough, I believe. The line is marked as follows:

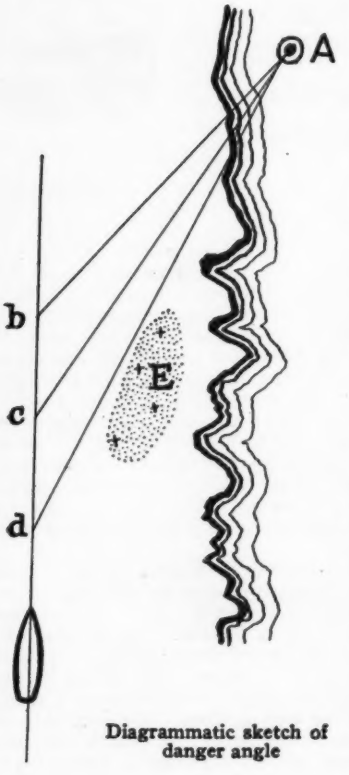
2 fathoms—2 strips of leather.
3 fathoms—3 strips of leather.
5 fathoms—Piece of white muslin.
7 fathoms—Piece of red bunting.
10 fathoms—Piece of leather with hole in it.
13 fathoms—3 strips of leather.
15 fathoms—Piece of white muslin.
17 fathoms—Piece of red bunting.
20 fathoms—Two knots.
25 fathoms—One knot.
30 fathoms—Three knots.

The chances are that the lead and line will not be used to determine great depths of water or nature of bottom so much as to determine if you have water enough for your boat. So the line I use is marked with a little wooden peg at that place on the line that indicates a depth of four feet of water; and the peg is placed, not at water line, but rather so it will touch the railing opposite the steering wheel. The advantage is this: Sea Drift has a draught of three feet. If I am running into a

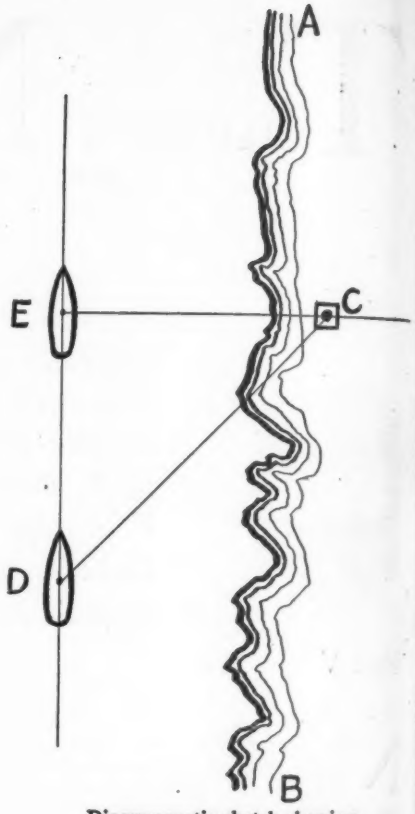
strange harbor, or through a strange channel, or exploring some cove to find an out-of-the-way anchorage, and there is doubt in my mind as to the depth of water, if the wooden peg goes to the railing or below it, I know there is water a'plenty. If the lead strikes before the peg gets to the railing I lose no time in reversing. And if at night, I do not have to bother with lights; I can feel the wooden peg. I have found this kink very useful.

The Patent Log is to your boat what the speedometer is to your car. A registering dial is mounted in the stern of the boat; a line extends from the dial out into the water; at the end of the dial is a rotator. The dial indicates mileage. As with the compass, get a good Patent Log; one you can depend upon. Either the Bliss Taffrail Log, or the Negus Yacht Log is dependable.

The clock, marine glasses and stop watch, included in navigation equipment, need no special comment. If you are going to buy a clock for the boat, get a ship's bell clock while you are about it—but above all things, get a reliable timepiece. On Sea Drift we have a Seth Thomas ship's bell clock which has proved itself remarkably accurate. A good pair of marine glasses is most important. You will need these to pick-up (observe) landmarks, light-houses, buoys, etc., etc. The stop-watch is useful when cruising at night to time the flash or duration of a given light. The Government publishes a book titled, *Light List, Atlantic Coast*. This book gives a description of all the lighthouses, nature and duration of the lights, etc., etc. For example, suppose you are cruising down Long Island Sound at night. You want to pick up Execution Rocks Light. From the Light List you know that it is a flashing white light, ten seconds' duration. And let me say that these lights are timed with remarkable accuracy! Here your stop-watch will come in very useful.



Diagrammatic sketch of danger angle



Diagrammatic sketch showing bow and beam method of locating distance from shore

The chart is the road-map of the water; and it is far more accurate than any road-map ever published—or at least, any road map that I have ever seen. It gives the motor boatman information on the aids to navigation—lighthouses, buoys, et cetera. It gives him the depths of water, and these are made from accurate surveys. It gives him an outline of adjacent land and indicates the location of various landmarks that show prominently from the water. It warns him of sunken rocks, sometimes awash at low tide, of sand bars that run out into the water for surprising distances. The motorist can get along without his road map; but the motor boatman is absolutely dependent upon his chart.

Of the aids to navigation, probably of major importance are the lighthouses. These are all along the Atlantic Coast, and spotted with great frequency along the inland water ways. But lights are not always confined to lighthouses; sometimes they are found on lightships, or on buoys. Lights have distinct characteristics so as to avoid confusion. First, there are two general classes: lights which do *not* change color, lights that *do* change color— that is, lights that show alternately white and red in various combinations.

In the first class, that is, lights that do *not* change color, there are six styles so to speak; fixed, flashing, fixed and flashing, group flashing, occulting, group occulting. And the characteristics of these are as follows:

Fixed: This is a continuous steady light.

Flashing: This shows a single flash at regular intervals, the periods of light being less than the period of darkness.

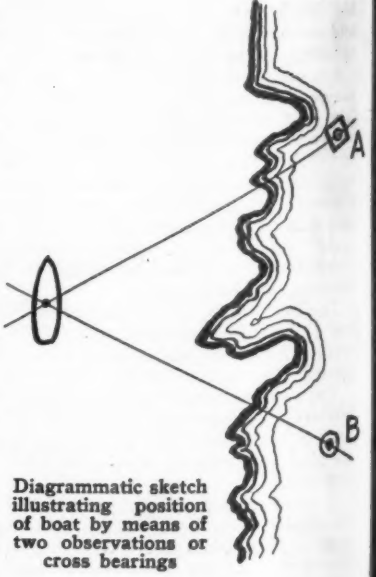
Fixed and Flashing: This is a fixed light that is varied at regular intervals by one or more flashes of much greater brilliance or intensity.

Group Flashing. This light shows at regular intervals groups of flashes.

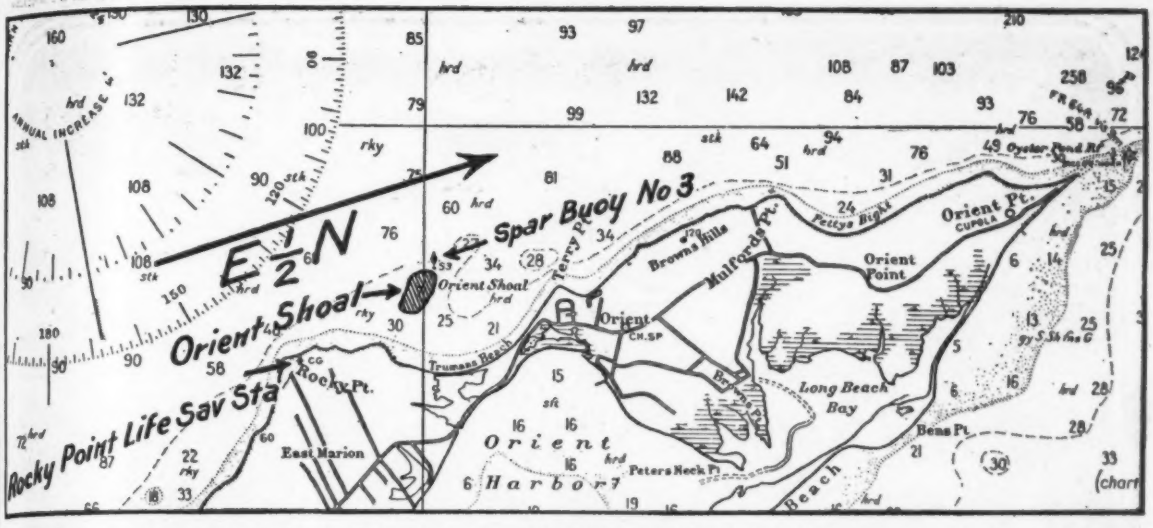
Occulting: This is a steady light that is suddenly and totally eclipsed at regular intervals, the period of darkness being equal or less than the period of light.

Group Occulting: This is a steady light suddenly and totally eclipsed by a group of two or more eclipses.

In the second class, lights that do change color, there are five general styles; alternating, alternating flashing, alternating fixed and flashing, alternating group flashing and alternating occulting. The characteristics



Diagrammatic sketch illustrating position of boat by means of two observations or cross bearings



Reproduction of part of detail chart showing Coast Guard S tation at Rocky Point, Orient Shoal, with bow and beam method of locating ship's position plotted

are the same as in the other classification with the exception of the showing of red and white alternating. The alternating flashing light, for example, shows a flash of red alternated with a flash of white at regular intervals.

The lights that do not change color, may be either red, white or green. The type of light, whether it be lighthouse, lightship or buoy, with its characteristics, is indicated clearly on the chart. In addition, the Government publishes the *Light List*.

Next to lighthouses and lights, buoys are of great importance to the navigator. And these are also clearly indicated on the chart.

The motor boatman should familiarize himself with the way in which buoys are placed at harbor entrances and along channels. In approaching from seaward the following order is observed: *Red* buoys, with *even* numbers are passed on starboard (right)—that is, you pass them on *your* starboard; black *buoys* with *odd* numbers are passed on port (left)—on *your* port. But you cannot take this order too seriously for you will find yourself sometimes in a position when it is difficult to tell when you are entering one harbor and leaving another. For example, not long ago we were cruising in toward Sag Harbor. We had run across Gardiner's Bay from Plum Island. As we approached to the southward of Shelter Island it was difficult for us to tell whether to pass the first buoys to starboard or port. In such cases the motor boatman must refer to his chart. As a general rule, however, you can remember that *red* buoys are passed on *your* starboard, *black* on *your* port.

In addition to these red and black buoys, remember that a buoy with *red* and *black* horizontal stripes marks an obstruction—keep clear of it; the channel is on either side. But a buoy marked with *white* and *black* perpendicular stripes indicates the center of the channel and must be passed close by.

Buoys are of different types; as for example, nun buoys, can buoys, spar buoys, etc., etc. The chart always indicates by an abbreviation the type of buoy in a given location, and, moreover, these abbreviations are given and explained on every chart.

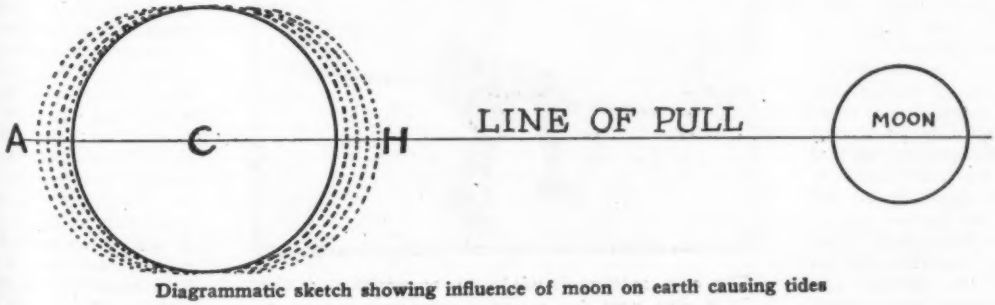
Depths of water are indicated by small figures, depths are usually given in feet at mean low water. It is well, however, for the skipper to consult his chart very closely and to read the legend very carefully—for on some charts depths are given in fathoms.

And it is well for the motor boatman to stock up in the beginning of the season with the charts that he thinks he will use. These can be obtained from numerous agencies in all principal seaports. Around New York he will want a set covering Long Island Sound; the Hudson River, and perhaps Lake Champlain. He will want detail charts of New York Harbor, East River, of some of the bays and harbors tributary to Long Island Sound. Stop in some day at one of the agencies and examine the index chart; this will give you an idea of what charts are published and you can select those you think you will use.

Of course, changes are constantly being made in characteristics of lights, location of buoys, et cetera. The Government publishes weekly a *Notice to Mariners*. This reports all changes; and by this it is a very easy matter to keep your charts right up to date. This notice will be sent to you, free of charge, upon application to Department of Commerce, Washington, D. C.

The art of piloting has been defined as, "The art of conducting a vessel in channels and harbors and along coasts where landmarks and aids to navigation are available for fixing her position."

The methods whereby the ship's position may be fixed by observations made on landmarks, are many. Some involve a knowledge of the sextant and its use; an instrument used by the navigator to determine angles. Some involve a knowledge of the sextant (*Continued on page* 144)



Diagrammatic sketch showing influence of moon on earth causing tides

Photographs by Keystone & Fotogram

Mr. Rigney aboard his radio equipped cruiser Mu-1 broadc asting the story of the Gold Cup races last summer

Why Not Have a RADIO Aboard?

Some of the Advantages to Be Gained from a Radio Installation Together With Some Practical Advice on Placing the Aerial and Ground

By W. F. Crosby

THE question of having a radio set aboard the boat this coming summer simply resolves itself into the adaptation of shore radio practices to the marine field. There is nothing very difficult about it, especially with present day receivers which are usually highly sensitive and will work under almost any conditions, provided they are given half a chance.

Of course one cannot expect results comparable with the home installation for several very good reasons. Among these we find that the summer range of radio is greatly reduced and therefore we cannot expect to receive from stations as far away. Another reason is due to the limited area of the antenna wire which must necessarily be somewhat shorter in most cases than the one used at home. Then, too, a good ground is usually lacking, but more of this later on.

The cage antenna is used in a transmitting station. It is also used for receiving purposes, but is primarily designed as a transmitter

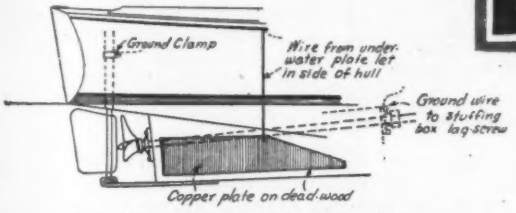
Even though we do not get results comparable with winter-time reception we can, nevertheless, pick up many enjoyable programs from the broadcast stations situated reasonably close at hand—that is within a radius of a hundred miles. Of course there are nights when we will be able to do much better and the writer remembers receiving an excellent program from KDKA in Pittsburgh while using a small loop receiver at the northern end of Lake Champlain, a distance of well over three hundred miles. However, it is next to impossible to tell just what a given set will do under such circumstances,

for in this test, which took place in the first week of last August, Canadian stations could not be heard, despite the fact that we were less than one hundred miles away from some of them. New York stations were also lacking, although Schenectady, Buffalo and other stations were distinctly heard, all of course, with loud speaker volume, for no head-phones were carried.

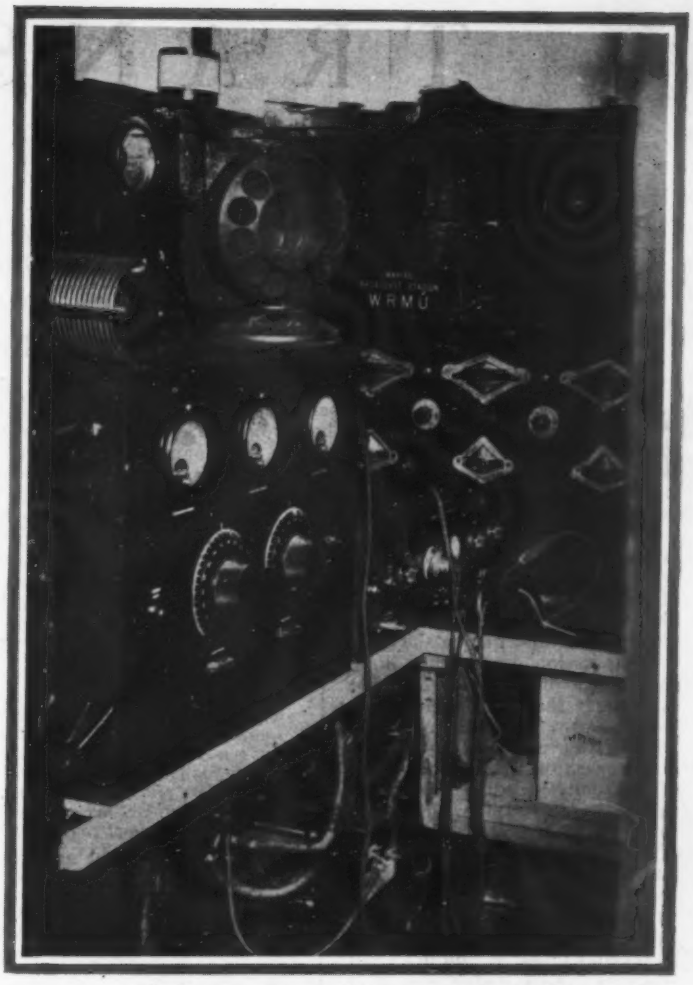
You may find, as we did, that you may occasionally anchor in some spot where not one single radio broadcast station will be heard. The very next night, only ten miles further on, you may have your pick of any one of half a dozen stations. Why? Atmospheric conditions, mountains or just plain cussedness of the receiver.

A loop aerial set is generally regarded as ideal for such work on the average cruiser, but unfortunately loop aerial receivers are not within the means of all of us, as such sets must necessarily have from two to three tubes more than are customarily needed for regulation aerial receiving. Then the idea that the loop set will not pick up as much static as the ordinary aerial is a point which is decidedly open to question. A loop receiver must necessarily be just that much more sensitive in order to work successfully and since it is operated in this condition it naturally follows that it is going to receive just as much static as the other kind of set. We have seen conditions in which a loop operated set could not be used on account of static where reception on the old three tube regenerative set would be quite successful due to the great difference in sensitivity.

Boiled down it simply means that if some means of supporting the antenna can be secured, such a set will prove even more satisfactory than the other kind, provided, of course, that the aerial itself approaches the proper length. This length problem is where the rub comes in, for there are few cruisers indeed which can boast of sufficient space in which to swing a hundred foot antenna.



The best marine ground connection is made through a metal plate

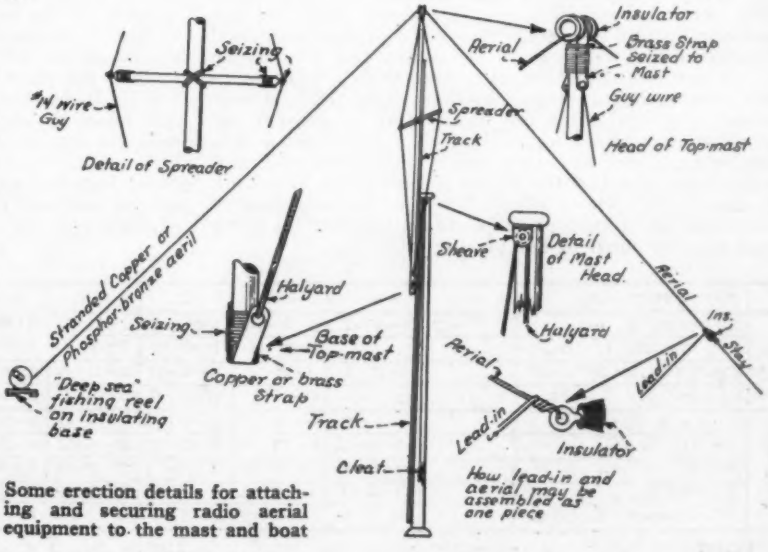


A close up of a complete radio receiver and transmitter installed on Mu-1, Douglas Rigney's cruiser

However, an aerial of this length is seldom absolutely necessary, as most receivers, particularly of the five tube variety, will operate with only slightly diminished efficiency on an aerial only fifty feet long and many of these same sets will do quite well with a wire but twenty feet in length. The only sacrifice with this length of aerial is the lack of distant stations due to the small amount of wire used, but the near-by broadcasting stations will come in with almost full volume and after all, such programs are always the most satisfactory for loud-speaker work.

To sum this all up, therefore, it is quite apparent that the average five tube set will give a good account of itself with only a twenty-foot spread of wire, which, it must be admitted, is a mighty short length, and one which may easily be exceeded by the average cruiser. Of course, the longer this wire the better, and every inch

(*Continued on page* 140)



Some erection details for attaching and securing radio aerial equipment to the mast and boat

TRANSCO
An Outboard Runabout

Popular Type of Small Boat Patterned After Famous Transcontinental Craft, Designed and Arranged for Easy Construction by Amateur Builders

Designed Especially *for* MoToR BoatinG

By Charles D. Mower

THE unusually interesting story of the cruise of Transcontinental which is being enjoyed by the readers of MoToR BoatinG has aroused a considerable interest in outboard motor boats and many requests have been received for a design of a boat similar to the one in which Mr. Hoag and his companions made their voyage across the continent.

By good fortune, Transcontinental occupied a berth in the Motor Boat Show where she could be seen from every angle and the writer spent a considerable amount of time studying her lines and taking her in generally. She was not dolled up for the Show and at first glance she gave the impression of a rather dirty and more or less disreputable little craft that was a cross between a row boat and a motor boat. A more careful inspection, however, showed her to be a boat of unusually nice lines and of an easily driven form with a fine forebody and a very clean run aft. The construction in general, and the planking in particular, gave evidence that she was built by an expert in the art of boat building and except for a crude emergency repair job on her stern transom which was made after she was so nearly wrecked in the Columbia River, the hull was in almost as good condition structurally as it was the day she left her builder's hands.

This month Charles D. Mower has designed another boat for you along lines suggested by many of our readers. Many more designs are to follow. Perhaps you have a particular size or type of boat which you would like to have Mr. Mower design for you. If you have, send us your suggestions and we will see that they receive prompt consideration.

Many readers write us asking for our suggestions as to costs, the names of firms who can build the boats, supply suitable power plants, equipment, etc. We are very glad to supply such information at all times, so if you at any time have any questions about the plans in MoToR BoatinG, we hope you will not hesitate to write to us.—Editor.

The design given herewith is not an exact reproduction of Transcontinental but is a boat of almost identically the same dimensions of length, breadth, depth, freeboard and of the same general arrangement of interior. The extreme over all length is eighteen feet and the extreme breadth five feet. The stern of Transcontinental impressed the writer as being almost too fine at the water line and of insufficient buoyancy for a boat carrying two outboard motors on her stern and the new design shows a wider and flatter stern to prevent her settling when under way. This change of lines is also due in a measure to having seen a photograph of Transcontinental taken off the Statue of Liberty, in New York Harbor, which shows about six feet of her bow clear of the water like a hydroplane before getting over the hump and settling down to her planing trim.

The interior arrangement shown is the same as Transcontinental. The forward deck is 6 feet 8 inches long with a crown of 6 inches at the forward end of the cockpit. The bulkhead in Transcontinental at the forward end of the cockpit was made water tight and the space in the bow was used for stowing equipment which was to be kept dry. A steering wheel was fitted at the forward end of the cockpit so that the helmsman and navigator sat on the forward thwart. The fact that this seat is only 10 inches wide and without a back board of any kind certainly shows a complete disregard for personal comfort on the part of the hard boiled crew who navigated her across the Continent even though they do confess to rigging up a trunk strap for a back rest behind the forward seat. The seat amidships is over the reserve gasoline supply tank from which gasoline was fed by air pressure to the fuel tanks on the motors. The space under the after seats in the stern was filled by air tanks as an additional measure of safety for keeping the boat afloat in case of filling her through accident or bad weather.

The construction of the hull is the conventional lapstreak row boat construction and is so simple as to require but little explanation.

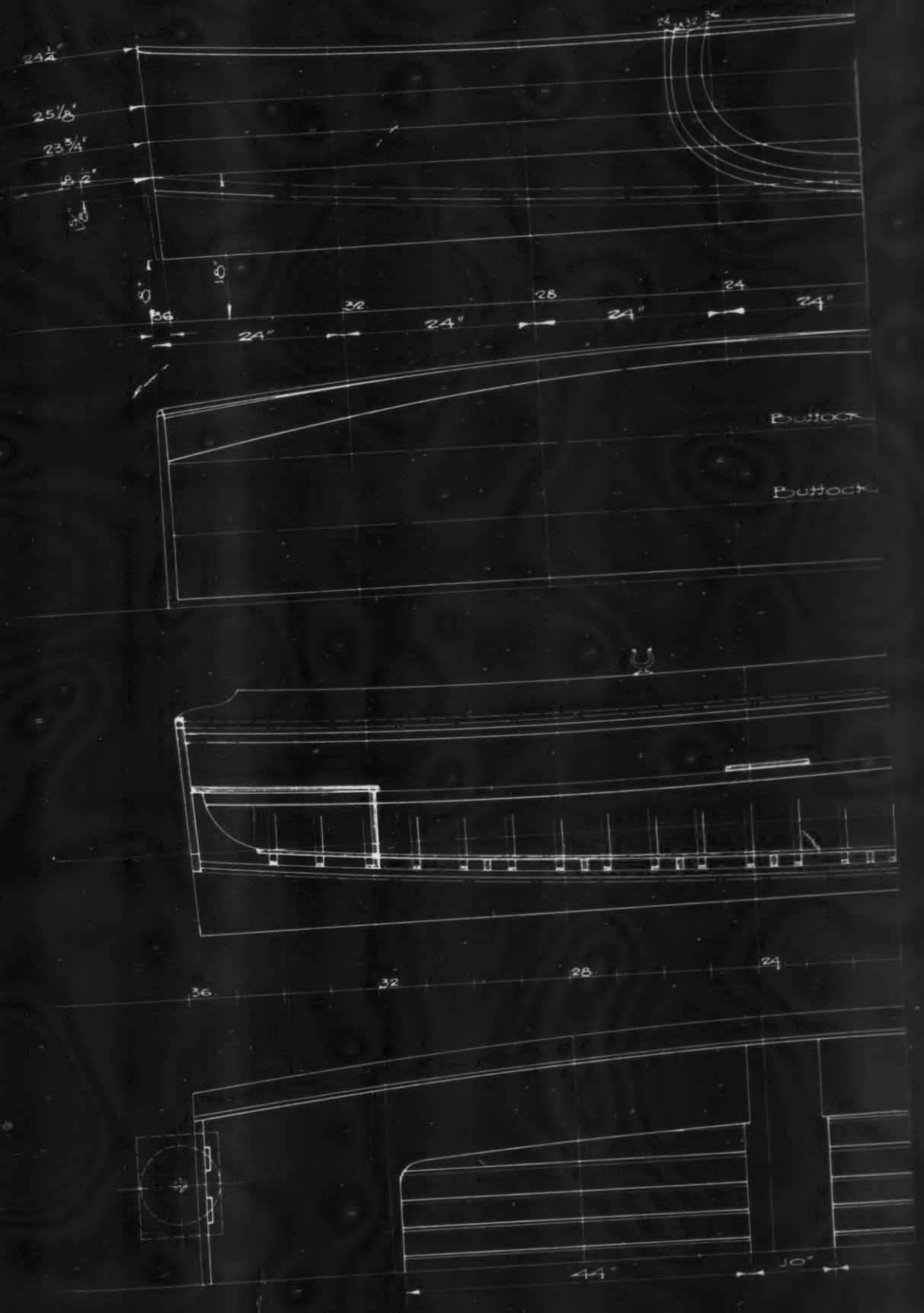
The keel is of oak 2 inches thick and about 3 inches deep from stem to stern. The deadwood is built up on top of the keel to the shape of the rabbet line from the deepest part of the hull to the stern and on top of the keel and deadwood a keel batten 1 inch thick and 4 inches wide is fastened to form a backing for the garboards. The stem is a natural crook of oak or hackmatack, sided 2 inches and moulded as shown on the plans. The stem is, of course, rabbeted to take the planking. The stern transom should be of oak 1½ inches thick and fastened to the deadwood by an oak knee, through bolted. The planking is of white cedar, ⅜ inch thick, lapstrake, in narrow planks (about 4 inches wide amidships and tapered as necessary at the ends) fastened with copper nails riveted over burrs and spaced not over two inches apart. The boat should be planked over the moulds and the frames put in after the

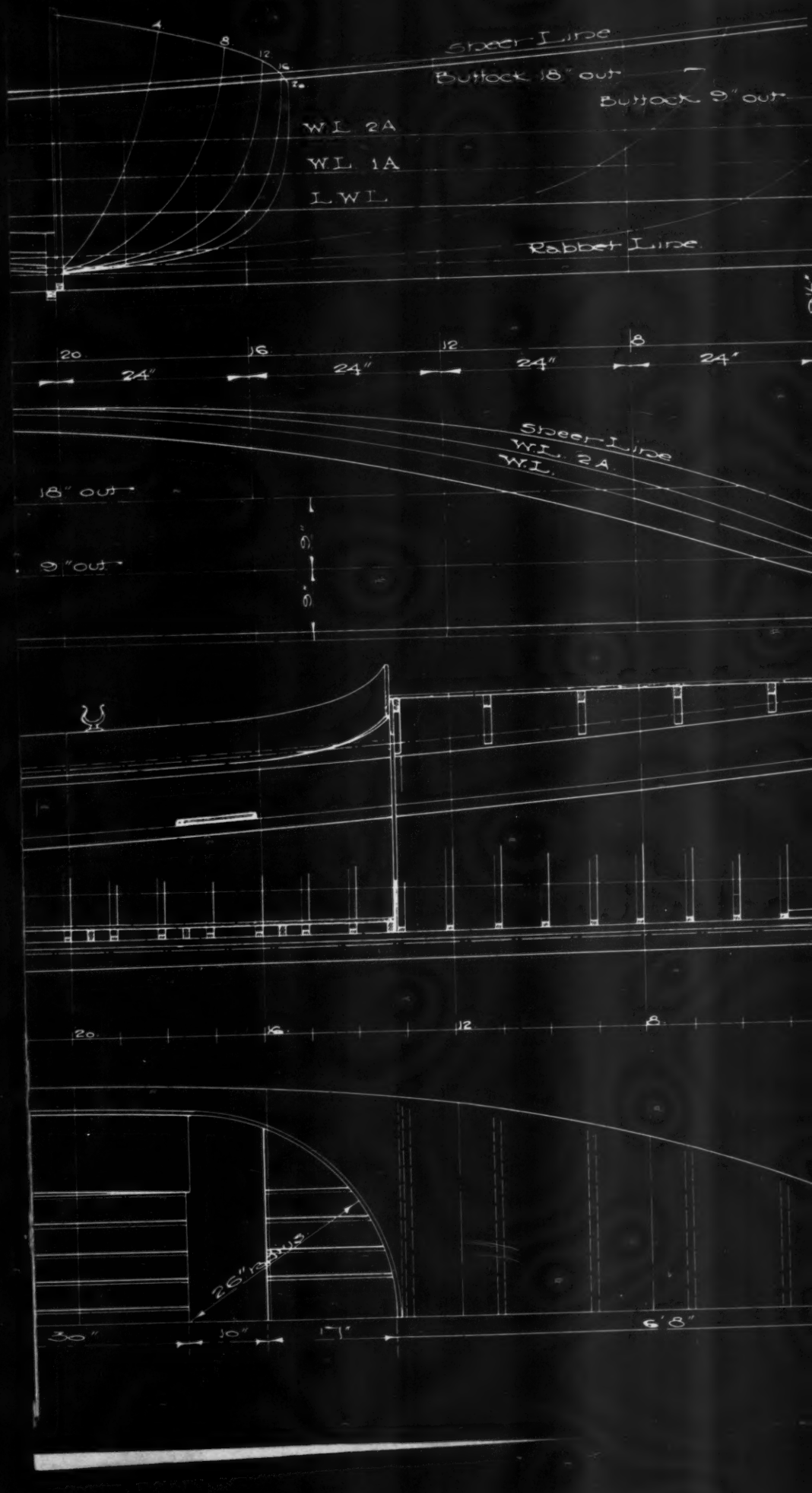
(*Continued on page* 164)

	STATIONS.	0.	4.	8.	12.	16.	20.	24.	28.	32.	36.
HEIGHTS ABOVE BASE.	SHEER LINE	3-7-0	3-4-4	3-2-4	3-0-4	2-11-0	2-9-6	2-9-0	2-8-5	2-8-6	2-10-0
	BUTTOCK 18" OUT.			2-0-4	1-4-2	1-1-4	1-0-6	1-1-0	1-2-0	1-3-5	1-6-0
	BUTTOCK 9" OUT		1-11-4	1-2-2	1-0-2	0-11-4	0-11-3	0-11-6	1-0-5	1-2-1	1-4-3
	RABBET LINE		0-11-3	0-11-1	0-10-6	0-10-5	0-10-5	0-11-0	0-11-6	1-0-3	1-3-6
HALF BREADTH	SHEER LINE		1-1-5	1-10-0	2-2-5	2-5-0	2-5-7	2-5-5	2-4-4	2-2-5	2-0-2
	W.L. 2 A.		0-10-2	1-7-1	2-0-7	2-4-2	2-5-5	2-5-7	2-5-0	2-3-2	2-1-0
	W.L. 1 A.		0-8-3	1-4-5	1-10-7	2-2-6	2-4-7	2-5-4	2-4-4	2-2-4	1-11-6
	L.W.L.		0-6-1	1-1-4	1-7-6	2-0-2	2-2-6	2-3-2	2-1-7	1-10-6	1-6-0
	RABBET LINE.		0-1-0	0-1-0	0-1-0	0-1-0	0-1-0	0-1-0	0-1-0	0-1-0	0-1-0

Note:— All dimensions in feet, inches and eighths to outside of Plank

Table of offsets containing all figures for properly laying down the lines of the 18-foot runabout Transco


24 32 36
24½"
25⅛"
23¾"
18½"
10
10
36
32
28
24
24"
24"
24"
24"
Buttock
Buttock
36
32
28
24
44"
10"

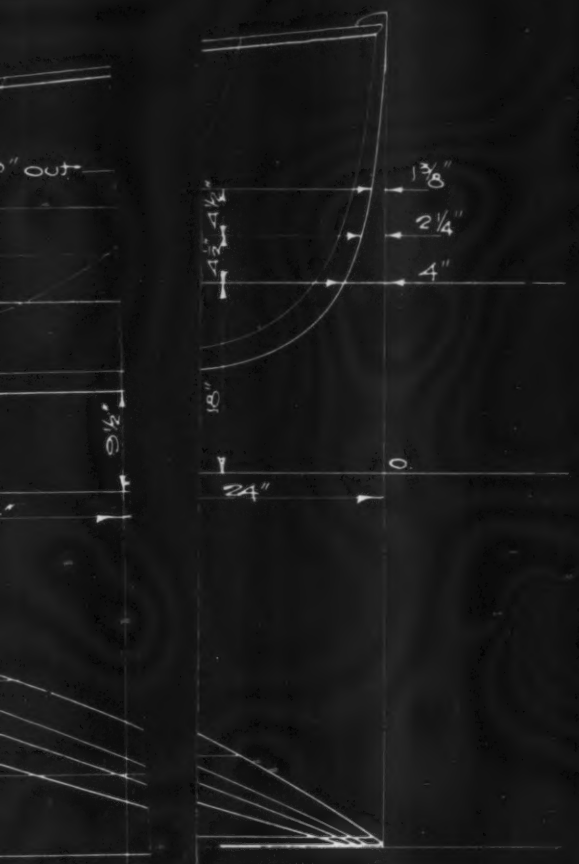

Sheer Line
Buttock 18" out
Buttock 9" out
WL 2A
WL 1A
LWL
Rabbet Line
20
16
12
8
24"
24"
24"
24"
Sheer Line
W.L. 2A
W.L.
18" out
9" out
20
16
12
8
26" radius
30"
10"
17"
6'8"

MOTOR BOATING'S BUILD A BOAT Series

TRANSCO

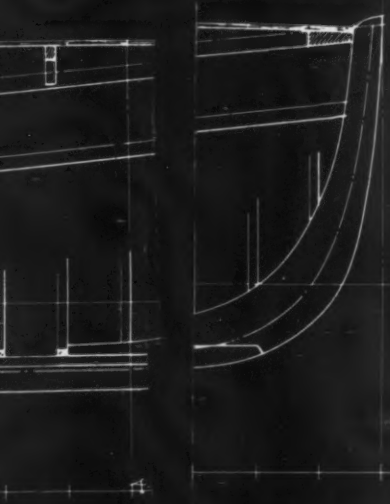
An 18 Foot Runabout for Outboards

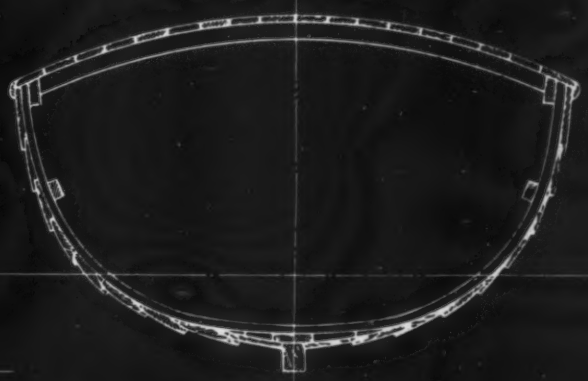
Designed by
CHAS D MOWER
Especially for
MOTOR BOATING
119 West 40th St.
New York



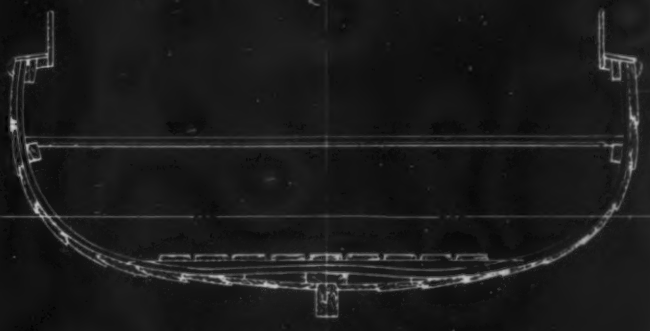
Scantlings

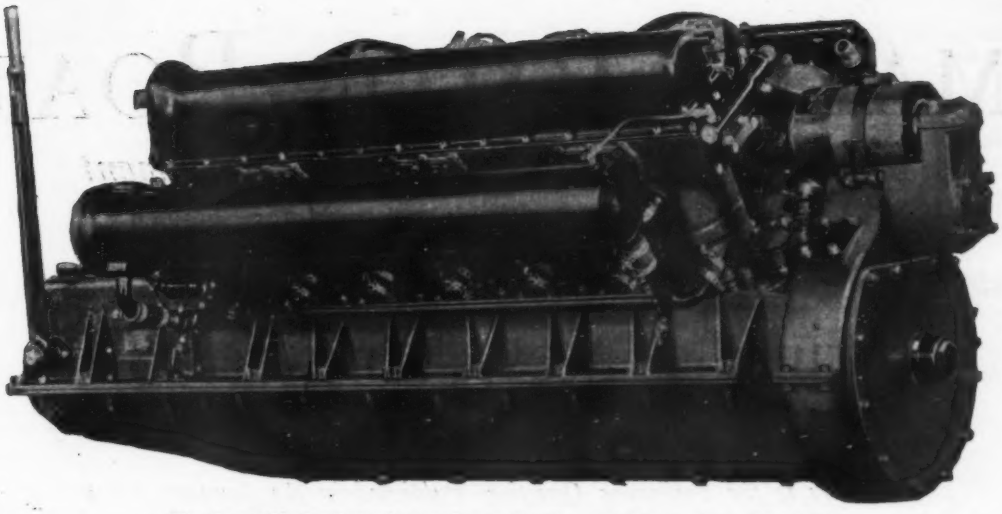
Keel, White Oak, sided 2" molded as shown.
Frames, W Oak, steam bent, sided ⅞" molded ½", continuous.
Planking, ⅜" cedar.
Clamp, 1" x 2" Yellow Pine
Coaming — ⅝" Oak.
Decking — ½" Pine canvas covered
Deck Beams, ⅞" x ½" Spruce
Seats — ⅞" Pine
Seat Riser, 1" x ½" Pine
Floors ¾" Oak.
Flooring — ½" x 3" Spruce
Keel Batten Oak, 1" x 4"





Scale ¾" = 1'





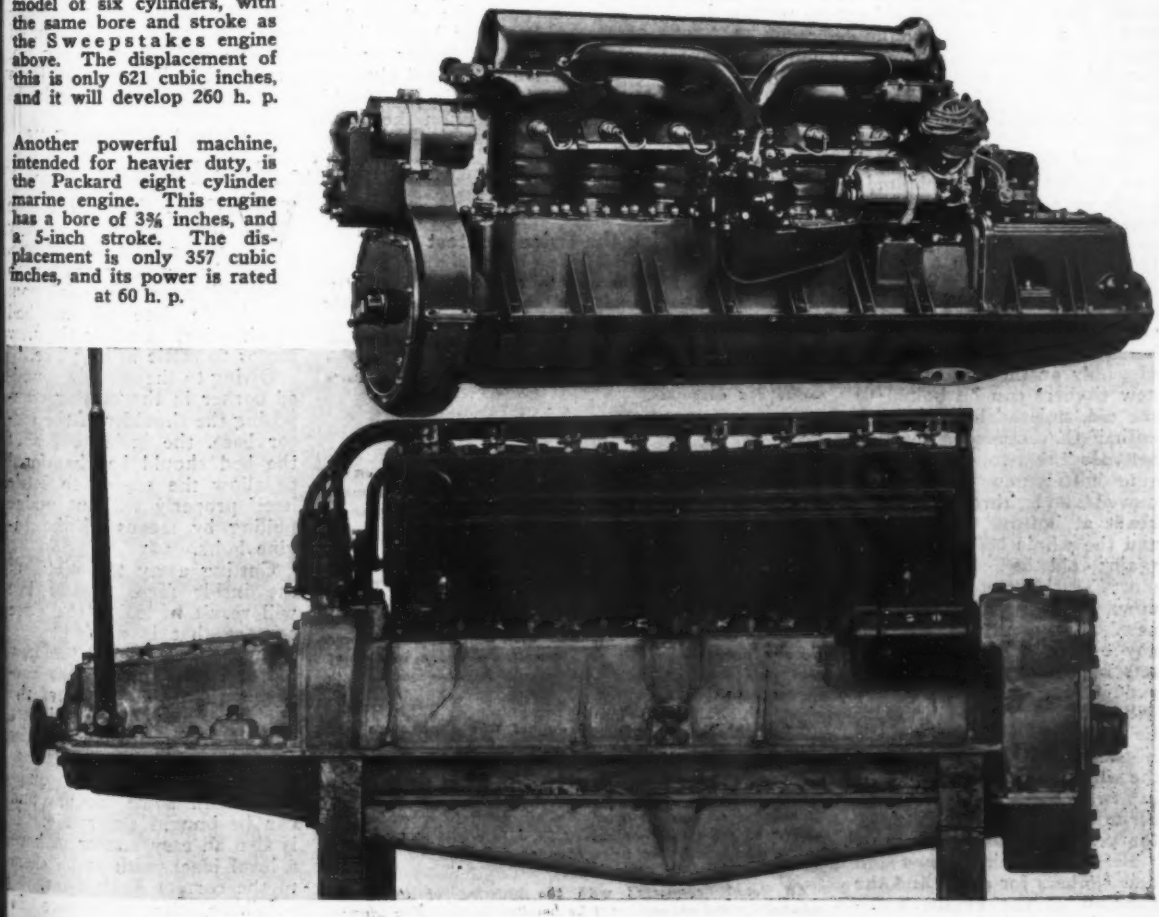
The large Packard marine engine is the Sweepstakes motor, which is a 12 cylinder machine of 5¾ inch bore and 4-9/16 inch stroke. On a displacement of 1,242 cubic inches, this engine develops 550 h. p.

Packard *Marine Engines*

High Class Power Plants Built by the Packard Motor Car Company of Detroit for Marine Service

An engine developed particularly for the Gold Cup runabout class is the Gold Cup model of six cylinders, with the same bore and stroke as the Sweepstakes engine above. The displacement of this is only 621 cubic inches, and it will develop 260 h. p.

Another powerful machine, intended for heavier duty, is the Packard eight cylinder marine engine. This engine has a bore of 3⅜ inches, and a 5-inch stroke. The displacement is only 357 cubic inches, and its power is rated at 60 h. p.



SMALL MOTOR BOATS

Their Care, Construction and Equipment

A Monthly Prize Contest Conducted by Motor Boatmen

Questions Submitted for the May Prize Contest

1. Explain how you would fit a new piston and rings in order to secure a first class job.
(Submitted by W. B. M., Newburgh, N. Y.)

2. What is the best and safest method of pumping up the pressure on the whistle tank? Explain and illustrate the installation.
(Submitted by W. B. M., Newburgh, N. Y.)

Fitting a New Engine Bed

How to Make Alterations to Adapt a Different Engine With Necessary Changes in Dimensions

Answers to the Following Question Published in the January Issue

"Explain and illustrate a practical method of altering the engine bed in an old boat to fit a new engine and aligning and fastening down the engine."

Altering Engine Bed

(The Prize Winning Answer)

IF the new engine base is the same width as the old, but the base flanges a different height, it is only necessary to cut down or shim up the old bed after carefully ascertain the difference between the old and new flanges. To raise the bed, if the difference in height is small, two iron bar or strip shims may be used, drilled for the holding-down bolts and preferably screwed to the tops of the old timbers with screw heads countersunk. Cutting down the old engine timbers is more of a problem as they can seldom be removed and working space is cramped. The best way might be to saw down through narrow sections, split out and finish with draw knife and plane, always making sure to have the finished surfaces parallel to the former top surfaces of the old timbers.

Should the new engine base be of a different width, new timbers may be bolted alongside the old, either inside or out, depending upon whether the new base is wider or narrower than the old. If necessary, wooden shims can be fitted between to make the new bed the correct width but on the other hand, should the new base be, say, only an inch or so wider, new timbers can be bolted to the old, holes drilled through both if they come on the line between the two, for the engine bolts; new timbers removed and through bolts, heads at bottom, set in place and the whole bolted together again; old bed in this case must be shimmed up or cut down to correspond with the new. Use plenty of bolts in any event, to secure the two sets of timbers well together and if the new engine bed will permit, run two or more tie rods through athwartship; if there is not space to run the whole rod through, make it in two parts joined by a threaded sleeve coupling at the center.

Before fastening down the new timbers for good, find the location of the engine hold-down bolts and place through bolts instead of lag screws; these are far better than lags, but use machine bolts and not carriage bolts as then if the bolt should turn when fastening down the engine, an open end wrench can usually be gotten into place under the head of the bolt to hold it. If the floor timbers are heavy enough and high enough to permit, put lag screws down into them from the new engine timbers but do not bore through into the planking nor allow the lag screw heads to project through. Sometimes new engine timbers are bolted down through the planking but this is dangerous on account of leaks. If it is done, bore through the planking for the bolt head, using carriage bolts here; let the head come flush with the bottom of the floor timber or frame inside and after setting up, drive in a wood plug set in red lead and smooth off flush with outside of planking. In this way no strain is brought upon the plank.

H. H. P., Los Gatos, Calif.

Rules for the Prize Contest

READERS are urged to consider the above questions for the May issue, and send answers to them to the Editor, MoToR BoatinG, 119 West 40th Street, New York, N. Y. Answers should be (a) in our hands on or before March 25, (b) about 500 words long, (c) written on one side of the paper only, (d) accompanied by the sender's names and addresses.

The names will be withheld and initials used.

QUESTIONS for the next contest must reach us on or before March 10. The editor reserves the right to make such changes and corrections in the accepted answers as he may deem necessary.

The prizes are: For each of the best answers to the question above, any article or articles sold by an advertiser advertising in the current issue of MoToR BoatinG of which the advertised price does not exceed $25, or a credit of $25 on any article which sells for more than that amount. There are two prizes — one for each question — but a contestant need send in an answer to only one if he does not care to answer both.

For answers we print that do not win a prize we pay space rates.

For each of the questions selected for use in the following month's contest, any article or articles sold by an advertiser advertising in this issue of MoToR BoatinG of which the advertised price does not exceed $5, or a credit of $5 on any article which sells for more than that amount.

All details connected with the ordering of the prizes selected by the winners must be handled by us. The winners should be particular to specify from which advertisers they desire to have their prizes ordered.

Placing the New Engine

WHERE the base of the new motor is slightly wider than the old one, it will be an easy matter to plane off enough material from the inside face of the bed (both sides) to allow the new motor to settle in its place.

Owing to the slightly rounded corner in the casting composing the shoulder of the motor base, the inside edges of the bed should be chamfered to allow the engine to settle itself properly without undue pulling by means of the engine bolts.

Cutting away too much of the inside faces of the bed will result in losing the close contact that is needed.

In the case where the new motor is an inch or less narrower than the old one, the old base may be left intact and the difference made up by using angle irons. These angle irons are standard equipment with some motors and can be bought separately. It is also an easy matter to have a local blacksmith make them to the correct dimensions.

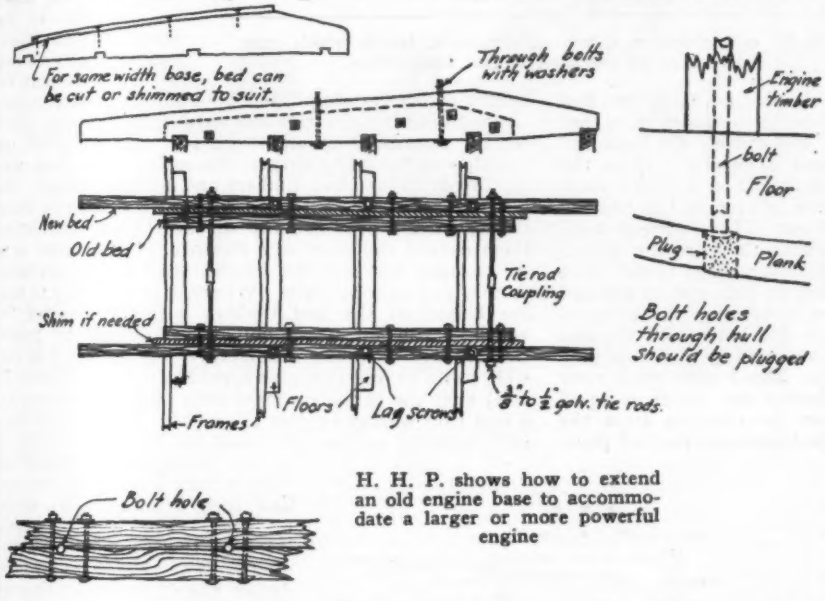
Where the difference in width amounts to more than an inch, the new engine being

the narrower, another bed can be bolted to the old one since all things being equal, it is supposed that the old bed was put in at the time that the hull was built and under conditions that permitted an excellent bed being made. Hence, if the old foundations can be used directly or as an auxiliary, it is good practice to use it.

The reverse of the foregoing condition is shown wherein the wider width of the new motor necessitates the shifting of the bed as shown.

Sometimes it is possible to interchange the bed stringer and the bed, using the stringer for the new bed and backing the stringer with a substantial piece of white oak.

In the case of fast runabouts where it is the common practice to use a bed and bed stringer, it is unwise in



H. H. P. shows how to extend an old engine base to accommodate a larger or more powerful engine

the matter of re-locating either to draw out any through fastenings that may have been used. They should be cut off at the point indicated and headed up over a substantial washer.

The string method of aligning a motor is commonly known and practiced, but in the writer's opinion is inferior to the method shown. In fact, it is much simpler than the string method.

The bolts are taken out of the coupling and a sheet of thin paper placed as shown, the propeller shaft end of the coupling being pulled forward to engage the paper between the halves of the coupling.

If upon turning over the engine, engine shaft and propeller shaft revolve and the paper does not fall out of the coupling entirely the alignment is good. If is does fall, the bed will have to be cut down or shimmed up to bring the engine in line with the propeller shaft.

For fastening a motor to its bed, nothing surpasses the through bolt using two nuts, the nuts being under the bed when possible. Lags and hanger bolts will eventually work loose.

J. E. M., Norwich, Conn.

Steel for Carrying Engine

THE possibility of using an old engine bed for a new motor is somewhat limited as practically all engines have different foundation dimensions. If the foundation is too wide for the new motor, two lengths of angle iron can be used as shown in the accompanying sketch. The top of the angle iron should be set flush with the top of the old side pieces for the reason that nearly all motors have the bottom of the foundation lugs level with the horizontal center line of the crank shaft and that if the center line of the new engine is raised above the center line of the old engine it will necessitate rearrangment of the propeller shaft, stuffing boxes, etc.

If the new engine requires a wider foundation there is nothing else to do but install a new bed after removing the old one and this is quite a job.

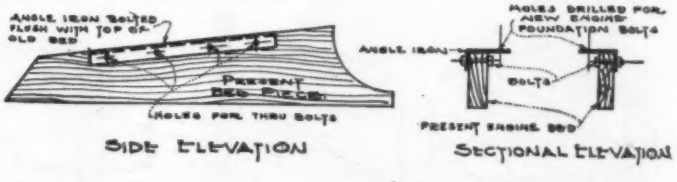
In placing the new engine just as much care should be given in lining it up with the old shaft as when the craft was built. Wooden shims or spacers can be used if necessary to give the new motor the correct angle.

H. S., New Orleans, La.

Repowering the Boat

THESE are the days of speed. The man who, a few years ago, was satisfied with a cruising speed of about eight miles now wants to double it at least, and the speed kings will never be satisfied. Our engines of a while ago developed their power at from 800 to 1000 revolutions per minute. Now, how fast do they turn? Refinement of engine design and materials has made these high rotative speeds possible and our boats and propellers have been designed to operate economically under these speed conditions. It is not always speed that prompts the desire for a new engine. The old engine may be erratic in its operation or cause the boat to vibrate like an old side wheel steamer. For all the engine may not be worn out, the improvements of recent years have made the engines exceptionally reliable and easy to operate. The installation of a modern marine engine will do more to pep up the old boat and revive the owner's interest in boating than anything else.

Many of us would install a new engine in the old boat and feel better satisfied than with a new boat, were it not for the apparent difficulties of adapting the engine foundation to suit the new power plant. However, the work is not as difficult as it at first appears. When you have settled on an engine that seems to meet your requirements, write the manufacturer or agent for installation blue prints, which will give the length and breadth of the bed plate and the spacing of the holding down bolt holes, together with the distance from the center of the shaft to the under side of the bed plate and

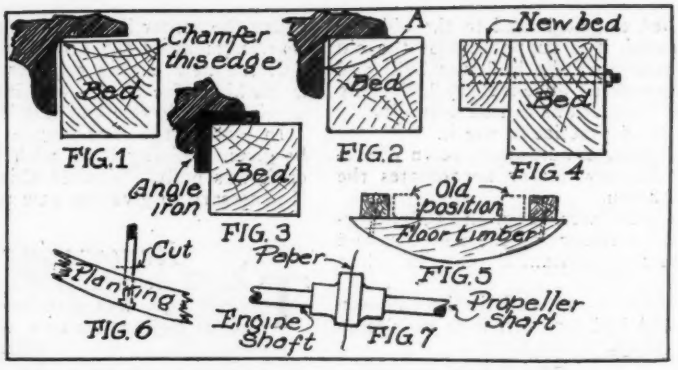


H. S. can carry an engine of different size on a steel extension to the bed

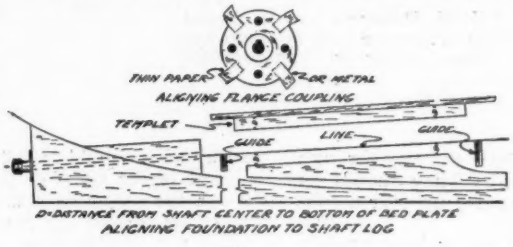
the distance from the bed plate to the bottom of the crankcase. With this information at hand, check up the old engine foundation to find what alterations will be necessary, or if it will be impractical to alter the foundation to suit the new engine. The man who has decided that one particular make of engine is just right for the boat will be hard to convince that he should purchase another power plant because it will more nearly fit the engine foundation with but little alterations to the foundation. Some of the old time engine beds were very short and fastened to the keel and through the planking in such a manner that removing the foundation will leave some mean holes in the hull. In such a case, cut

away the bed stringers and then build the new foundation around what is left of the old one.

After removing the old engine, the first step is to level the boat by plumbing the stem and get the line of the foundation so that the engine will set on it with the center of the shaft in line with the center of the shaft log. There are several methods of getting this line and they work out very nicely in experienced hands. The method shown is simple and easily handled by anyone mechanic enough to build the foundation. Set up temporary fastenings inside and outside the boat and stretch a chalk line taut so that it exactly centers the shaft hole at the inboard and outboard ends of the shaft log and then place a short batten at each end of the bed between which the engine will set. These battens must be set level and firmly fastened as they are the guides from which the engine foundation is aligned to the shaft log and then place a short batten at each end of the bed measurements from the engine, determine the distance from the center of the shaft to the bottom of the bed plate and make a templet by nailing together two pine sticks, which must be straight. The longer stick rests on the level guides and the shorter one which is equal in width to the distance D or the distance from the center of the engine shaft to the bottom of the bed plate, is nailed or screwed edgewise to the other. When placed on the guides parallel to the chalk line, this templet shows the angle and height of the foundation necessary to take the engine without further alterations.



J. E. M. calls attention to several structural details which must be noted in changing engine foundations

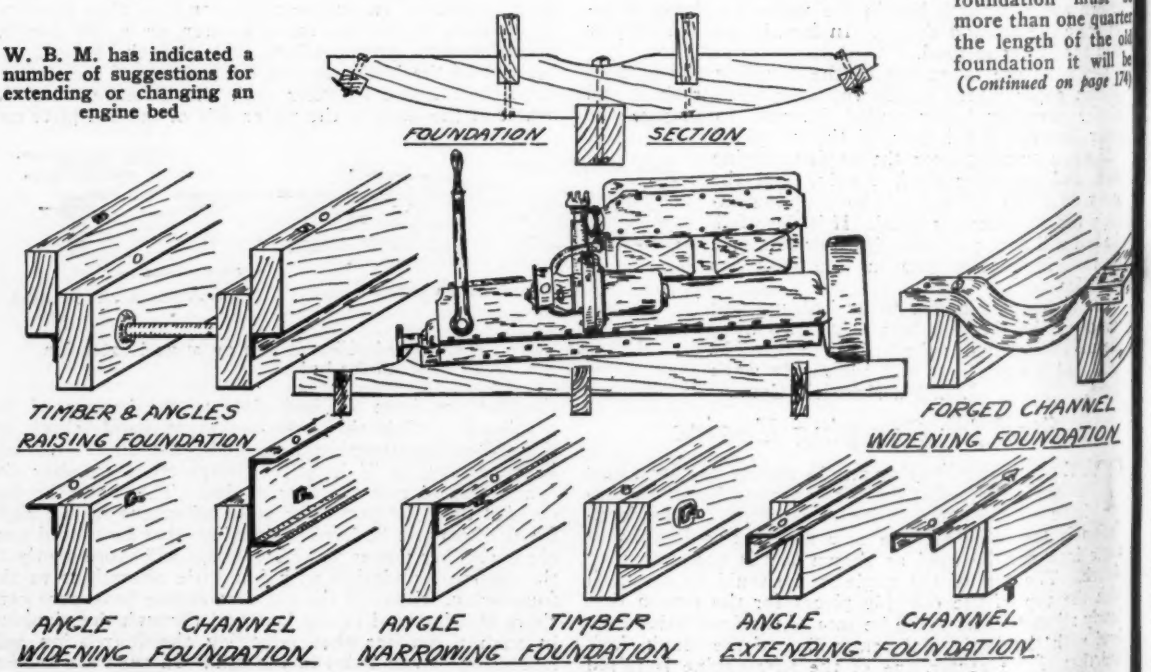


If sound the old engine bed can be altered to suit most any engine. Widening or narrowing is easily accomplished by bolting on steel angles, channnels, or hardwood strips. The foundation can be raised and widened at the same time by means of steel channels or hardwood, bolted alongside the bed timbers, or it may be lowered by the same means. Widening or narrowing without changing the height is best accomplished by bolting on steel angles, although hardwood strips will answer the purpose. Under certain conditions it might be advisable to widen the foundation by using forged channels let in flush with the top of the old bed timbers and bolted through. The bed timbers can be extended without widening by fitting steel channels over the top of the timbers and letting them extend the necessary distance. If the width is to be changed but not the height, steel angles are satisfactory and easy to place. Where it is necessary to raise the height of the bed timbers without changing the width, hardwood strips bolted on top of the present timbers will be found satisfactory. Wherever it is possible to do so, use two pipe spreaders bearing against the steel or if the spreaders must bear against the wood use a cast iron washer against the wood. Use through bolts with washers against all wood for fastening extensions to the foundation. Angles not lighter than 2 x 2 x ¼ inch. and half inch machine bolts should be used. For heavier engines increase the proportions accordingly. The altered engine foundation should be stiffer than before and a marked decrease in vibration may be expected due to the reinforcing of the foundation.

If the total extension to the foundation must be more than one quarter the length of the old foundation it will be

(*Continued on page 174*)

W. B. M. has indicated a number of suggestions for extending or changing an engine bed



A Surprise in Engines

High Speed Gasoline Turbine Type Power Plant Furnishes a Novelty and Surprise in Power Plant Design

A NOVELTY in marine power plants which was disclosed at the recent Motor Boat Show in New York, and which had all of the wise yachtsmen guessing, was the marine gasoline Turbine type engine, as developed in the laboratories of the American Gas Turbine Corporation. This little machine which does not resemble the conventional type of gas engine in the slightest degree, was mounted in a boat, and due to the fact that the interior was not visible, it was immediately classified as a mysterious object. This new type of Turbine, combines all of the good qualities of the ordinary engine, together with many new features which are far beyond the physical limitations of the reciprocating tvpe of engines. Its weight is less than one-half that of an ordinary reciprocating engine of the same horse power. While the particular machine shown at the Show was rated at twenty horse power at 3,000 revolutions, it weighed only 125 pounds. Larger units have been built up to 125 h. p., in which the weight was relatively the same.

There are many peculiar features about this machine which make it hard for the uninitiated to grasp. There are no crankshafts, no connecting rods, no fly wheel, no poppet valves or springs, no oil pump, nor reciprocating parts. In operation the machine functions as steadily, and freely as an electric motor, in fact it has all of the characteristics of the turbine engine, although it does not use the blades or vanes characteristic of the turbine. It is distinctly different in its operating principle from any type of gasoline engine heretofore constructed. Withal it is extremely simple, and comprises only some twenty essential parts. A particular advantage is the entire absence of reciprocating parts, and the absence of reversing stresses which are common to the ordinary engine.

The appearance of the machine is neat, the entire mechanism being enclosed in a stationary casing, which encloses all the moving parts, protecting them from dirt and the weather. Engines of this type have undergone exhaustive and severe tests in actual marine service, and have satisfactorily completed every test. Its high speed and continuous torque make it an ideal machine for racing motor boats and permits of great speed. In addition its power can be applied to a propeller through suitable reduction gears, so as to permit turning a large diameter propeller at its most efficient speed, to provide the best results in heavy boats, auxiliaries and similar craft. Due to its small dimensions and compactness, it can be stowed away in a minimum of space, and its absence of vibration makes it difficult to determine whether the engine is actually running. In such boats as cruisers and similar pleasure craft, it will occupy only one-quarter of the space required for other engines of like horse power.

Its method of operation is simple when it is understood. There are located about two different centers, a number of chambers which form the rotating element. There are also a series of pistons securely attached to another rotating member, which, however, turns about a center which is eccentric to that of the cylinders. The machine functions on the four cycle principle, and the operations of this cycle follow the regular arrangement. The fuel, however, instead of being admitted through a manifold and poppet valves, suffering the sudden stops and starts incidental to this method of supply, follows a uniflow theory and enters a central valve passage at the forward end of the

(*Continued on page* 94)

Top view of the Harper marine Turbine above, and a view showing its relatively small size compared to a propeller

Yard *and* Shop

Notes of Interest to Both Owner and Manufacturer

New Sea Sled

The Sea Sled Corporation of Mystic, Conn., has brought out a new 23 foot five passenger model, which is identical in design with the larger 28 foot boat, and of the same substantial construction. An engine for this boat has been especially developed by the engineers of the Buda Company, after many months of testing and experimenting. On one occasion, the testing driver headed at full speed, straight for an unbroken piece of salt water ice one hundred yards long and three hundred yards wide. He struck the ice at 28 miles per hour, cut a lane through it, and was doing 18 miles per hour when he hit open water again. The six cylinder Buda engine in this Sea Sled is rated at 75 h.p., with a bore of 4 inches and a stroke of 5⅛ inches, capable of driving the Sea Sled at 28 m.p.h. The Groton Iron Works at New London, Conn., has been leased by the Sea Sled Corporation, particularly for building these new boats.


"25 Years Ago this Week"

From The Detroit News of December, 1900

DEC. 15.

ONE of the largest gasoline yachts on fresh water is now in course of construction at Oades' shipyard and is to be ready for launching by the opening of navigation. It is being built under the direction of Joeph Robarge, once foreman of Oades' but for some time past engaged in the ship-building business in New York City. Walter H. Oades, owner of the shipyard, and C. H. Lawrence, formerly owner of the burned yacht, Roberta, are each half owners of the new boat, the former supplying the hull and the latter the engine.

The new boat will be 66 feet keel, 11 feet beam and 6 feet deep, so it will be seen that she will be something of a whale among gasoline boats in these parts. She will be built essentially for comfort and her owners do not expect that she will make more than 12 miles an hour; but no expense will be spared in fitting up the interior with all the conveniences for long cruises. There will be cabins forward and aft, a private room fitted up in all the luxury of a parlor at home, kitchen, dining room and berths complete.

* * *

THE engine will be 35 horsepower with four cylinders, manufactured at the Pennsylvania Iron Works and known as the Globe engine. The double engine will cost $2,600 alone and will be the largest engine of its kind ever run by gasoline. The company that built it is anxiously awaiting the result of its practical work, as it takes up no more space than a steam engine and boiler for a craft the size of the new boat.

The boat with gasoline engine will not be under the necessity of undergoing government inspection, and this is another point in favor of gasoline rather than steam for the purposes of propulsion.

OHIO CLEARING HIGHWAYS | with an electric scraper

Twenty-five years ago a marvel of the age was a four cylinder engine of 35 h. p. built to drive a 66 foot boat. Contrast this with the engines of 500 to 600 h. p. available today

The fast Banfield 34 foot Fishing Boy which was built for J. H. R. Cromwell. The boat was designed particularly for off shore fishing, and carries a shelter cabin forward

Wins a Sport Twin

During the period of the recent Motor Boat Show, the Evinrude Motor Company, at their exhibit of outboard engines, had arranged a contest, the winner of which was to be awarded one of the new Evinrude sport twin outboard engines. The contest consisted in estimating the number of turns registered on a concealed counter, attached to one of the Evinrude display engines. This was so mounted as to be easily turned by the spectators as they strolled about the Show, and it was a very natural situation for each visitor to turn the handle at least several times. A surprisingly large number of turns were counted, the total being 55,769. The nearest estimate to this was 55,853, and was made by John Brady of New York. As a result of his fortunate guess, he now becomes the owner of the brand new Evinrude engine.

Steve Drakeley in Charge of Duplex Oil Exhibit

Many a motor boat enthusiast who attended the recent national show at the Grand Central Palace was able to recall the big days of automobile racing, when he came across Howard Drakeley, known to all his friends as Steve. Howard Drakeley is now the lubricating engineer with the Enterprise Oil Company, and is devoting his entire time to the marine field.

Mr. Drakeley was in charge of the Duplex exhibit at the show and it was surprising how many of his old acquaintences dropped in for a chat about the good old races at Sheepshead Bay when all eyes were fixed on the Briarcliff and Vanderbilt cups. The activities of Mr. Drakeley will be recalled in connection with such famous racing cars as the Benz, Panhard, Mercedes, Darracq, Sterns and Locomobile.

Mr. Drakeley's experience in the early days of automobile racing is standing him in good stead now that he is devoting his entire time to marine engine lubrication.

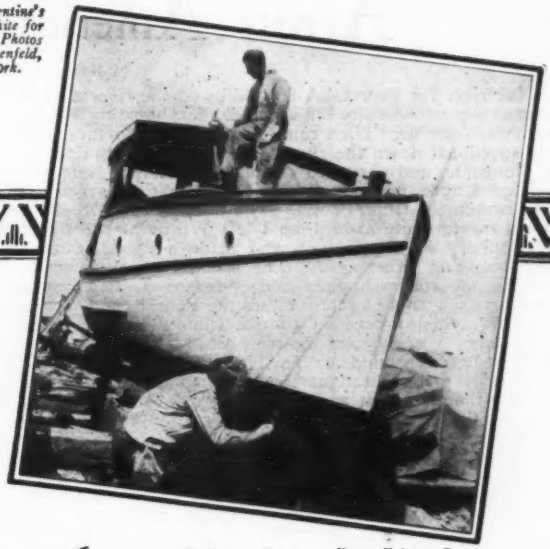
Why the Diesel Yacht

A booklet of unusual interest has been prepared by Cox & Stevens of New York, on the subject of Diesel

(*Continued on page 72*)

An ideal little engine of only 44 cubic inches intended particularly for yacht tender or other small boat work

Left: Valentine's Yachts White for the hull. Photos by M. Rosenfeld, New York.



Above: Valspar Bronze Bottom paint for bottoms.

Spring is in the Air!

NOW is the time to start thinking about your Annual Spring Clean-up. A little careful planning before you "commence operations," will save a lot of time later on and will give you a season free from worries. Be sure to use the proper paint and varnish!

During two decades, Valspar has given valiant service on yachts, speedboats and all kinds of watercraft. Today, Valspar is famous the world over as *the varnish that won't turn white.*

And Valspar comes in many forms, each one of great value to yachtsmen. *Clear Valspar* is the absolutely waterproof varnish. It is proof against weather, water and sea service. Amazingly durable and elastic, Valspar resists severe wear and hard usage. It is easy to apply,—dries dust free in two hours, hard overnight.

Clear Valspar for gunwhales and washboards. Valspar Boot Topping for waterline.

Valspar Bronze Bottom Paint is prized by boat owners as a dependable anti-fouling mixture that will keep the bottom of the average boat free from barnacles all season.

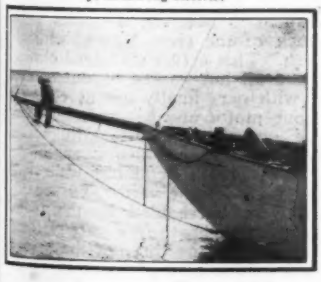
Valspar Yacht White and Yacht Black are the highest grade paints for your boat. They will keep their good looks all summer long, in spite of water and weather.

Valspar-Enamels. If you want beautiful, glossy, Enamel colors use Valspar-Enamels. Made of Valspar, they are therefore absolutely waterproof, unusually durable. Other Valentine products you'll need are: Valspar Varnish-Stains, Valspar Aluminum Paint, Valspar Gold Paint, Valspar Boot Topping, and Valspar Brass Polish Preservative.

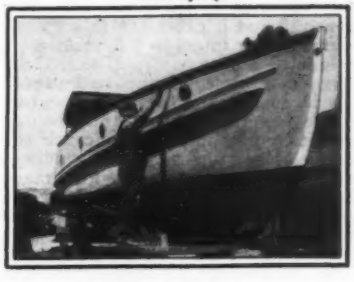
All are highest quality. All have Valspar's waterproofness and long wearing qualities.

Send coupon for generous samples.

Clear Valspar for spars. Photo by J. Armstrong Roberts.



Valspar is waterproof and weatherproof.



Largest Manufacturers of High-Grade Varnishes in the World

This coupon is worth 20c to $1.60

VALENTINE'S VALSPAR
The Varnish That Won't Turn White

VALENTINE & COMPANY M.B. 3-26
460 Fourth Ave., New York

I enclose dealer's name and stamps—20c for each 40c sample can checked at right. (Only one sample of each product supplied at this special price. Write plainly.)

Valspar Instruction Book with Color Charts, 15c extra.

Dealer's Name.....
Address.....
Your Name.....
Address..... City.....

- Clear Valspar . . ☐
- Valspar Bronze Bottom Paint ☐
- Aluminum Paint . ☐
- Gold Paint . . . . ☐
- Yacht White . . . ☐
- Yacht Black . . . ☐
- Valspar-Enamel . ☐ Choose 1 Color . . . .
- Valspar-Stain . . ☐ Choose 1 Color . . . .
- *Valspar Book* ☐

Across America by Motor Boat

(*Continued from page* 13)

off up the river for Peoria. A few miles up the river a huge dirigible airship soared down out of the sky and began maneuvering around above us. Then came a couple of airplanes, and later a speedboat down the river. The speedboat circled us, came alongside, and throttled down. About that time the idea dawned upon us that all this demonstration was a reception committee from Peoria. The men in the speedboat beckoned me to come aboard, so I left Wilton at the wheel and Woodbury at the engines, and made a flying transfer without stopping either boat. The speedboat contained A. T. Griffith, Peoria yachtsman and editor of *Boating*, and a group of newspaper men representing the Peoria and Chicago papers. We then proceeded to the Illinois Valley Yacht Club in Lake Peoria, where the members of the club and its officers gathered around us and insisted that we should make their club our headquarters as long as we could remain with them. Much as we would liked to have availed ourselves of the hospitality of the Ivy Club, our sojourn there had to be made as brief as possible. We were already weeks behind the schedule we had originally planned for the coast to coast cruise. Weather conditions, however, compelled us to remain a day in Peoria. The weather had been hot but fair all the way from Kansas City to Peoria. The day after our arrival in Peoria, about the time we had arranged to leave, it began raining as if the skies were attempting to give the state a year's supply of moisture in one deluge. So, off went another day from our already badly wrecked schedule.

It is sixty-two miles from Peoria to the entrance of the Illinois and Michigan Canal near La Salle, Illinois, but by getting an early start the next morning, we believed we could be in La Salle that evening. We cruised steadily all day, stopping at Lacon for half an hour for lunch. Then for the rest of the afternoon we kept Lewis and Clark turning at full throttle without ever being shut down. About six o'clock we passed the mouth of the Hennepin Canal, the water route between the headwaters of the Illinois and the Mississippi Rivers, and cruised on up the river. The farther up the stream we progressed the worse the pollution became. A few miles below Peru, Illinois, we found ourselves in liquid that was as black as ink, with masses of black muck floating upon the surface. This part of the river is nothing but a flowing cesspool. Gas bubbles are constantly rising from the bottom, and the aroma is enough to stagger a billy goat. Until Chicago solves her sewage disposal problem in some less slovenly manner every living thing except the germs of pestilence must shun the Illinois River, especially the upper portions of it. We traveled through it merely to get from the Mississippi into the Great Lakes. A portage over this route would have been justified.

Up to this point of the narrative, I have scarcely touched upon the subject of night navigation. We never made a practice of traveling after dark except when absolutely necessary. But, in spite of our efforts to eliminate night running we came in for more than our share of it. We frequently found it necessary to keep going after darkness had fallen in order to get to a landing, a camp site, or some other designated objective. And, as I think of it now it was the worst nightmare of the entire ocean to ocean journey. Rapids, snags, sand bars, falling cut banks, rough water, and all the factors that constantly menaced the success of the expedition pale into insignificance compared with the utter feeling of helpfulness and impending disaster which threatened us with every run we ever made after dark. Cruising through unknown waters, often with swift currents to contend with, and through darkness so black that a blind man at the wheel would have had an advantage over us, lacked much of being conducive to peace of mind and security of body. It was not the disaster we ever met while running at night, but the disaster we constantly and momentarily expected, that caused us discomfort. It was like walking along on the edge of a cliff blindfolded—and wondering what instant one might step off into space and to destruction. Every time we ran at night—and without meeting disaster, we solemnly swore we'd never do it again. But, as surely as we made such vows, it was only to break them, possibly the following day.

Although we had repeatedly sworn off on night cruising, we found ourselves cruising up the upper Illinois River in the vicinity of Peru, Illinois, through a night that was as dark as the proverbial black cat. We scraped the shore several times, dodged a million rocks and deadheads that were either real or imaginary, passed above the twinkling lights of Peru, and thought we detected the entrance of the Illinois and Michigan Canal on the left bank of the river. That effort to get into the canal without being able to see it came nearer to ending the transcontinental cruise than any other mishap of the entire journey. Steering for the faintly silhouetted opening which we believed to be the canal, we ran aground on a slimy mud flat. Just as we struck, the whole aft end of the cockpit burst into flames with a preliminary gasoline vapor explosion that all but blew us out of the boat. Instantly the fire began shooting skyward, and it seemed that we were doomed to pile overboard—making for shore as best we could through the filthy water, and leaving the boat and its thousands of dollars' worth of equipment to the flames. Mr. Woodbury, who was in the stern of the boat at the time, grabbed the heavy canvas cockpit cover, and chucked it down over the fire. He was wildly tucking the corners of the canvas over tongues of escaping flame when I got aft with a Pyrene. In less time than it takes to tell it the fire was out. Following the flare of the fire the blackness of the night seemed tremendously intensified. We rubbed the singed lashes out of our eyes, and began hunting for the cause of the near-disaster with a pocket flashlight. We found it in the form of a leaking gasoline line from the main tank amidships. The fuel had run out on top of the bilge and under the floor grating of the after cockpit. The swirling vapor from the liberated gasoline had apparently been set off by having made its way into one of the kerosene running lights. The leading gasoline line was closed off at the tank. We sponged up all the loose fuel we could find, extinguished the running lights, and poled the boat off the mud flat.

Making our way to shore, we landed to discover that the opening we had tried to enter was the Illinois and Michigan Canal—or rather the ditch where the canal used to be. There was no water in it—nothing but slimy mud, and clouds of mosquitoes swarming over it. The mosquitoes drove us back to the boat, where we started the motors, and got under way—but not sure where we were going, or even where we wanted to go. To all appearances we were in the head end of a blind alley. The only course open to us seemed to be to go on up the river, attempt to reach La Salle, and there obtain information as to whether we might be able to get through the Illinois and Michigan Canal or not. The Illinois ceases to be a navigable stream above the entrance of the canal. The current becomes very swift, and all aids to navigation are lacking. Thus we found ourselves battling up the river in total darkness for about two miles until the lights of La Salle came into view. We discerned the dim outline of two bridges, and battled the current under them without hitting anything. Five hundred yards above the second bridge we ran aground on a mud flat and in a field of submerged or semi-submerged stumps. Meanwhile we had noted that the river seemed to be swinging away from the town, and certainly with no indication of going any nearer. Under the circumstances, the only sensible thing for us to do was to get off the mud flat and run back down the river to Peru. Getting off the flat, however, was no easy task. When we attempted to pole off, the poles went down in the soft black muck of the river bottom without exerting any appreciable push. This action dislodged clouds of bubbles from the mud and all but gassed us out of the boat. A ten minute effort with oars finally got us clear of the mud flat. We started one motor and began feeling our way down the river. We got through the swift water between the bridge piers again without hitting anything, eventually landing at Peru against a retaining wall that seemed to be the back end of a freight yard. No sooner were we ashore when we were overhauled by the Irish policeman assigned to that particular beat. We were glad to meet him. The officer had heard of us through the press, and seemed to feel that he'd gain a rare privilege in being able to render even a small service. He promised us he'd let seven varieties of daylight through any prowler who might attempt to molest our boat or outfit. Then he went to his call box and ordered a taxi for us.

Telephone calls to Chicago and Joliet next morning revealed the fact that heavy rains earlier in the season had caused some breaks in the levees of the Illinois and Michigan Canal. The canal was dry between Ottawa and the Illinois River—a distance of 15 miles. The remainder of the canal, from Ottawa to Joliet had a little water in it, but was officially closed to navigation. A fifty-foot lock at Joliet; the lock that when in operation handles traffic from the end of the Illinois and Michigan Canal into the Chicago Drainage Canal was hopelessly out of commission. The superintendent, however, stated that we might attempt to

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Across America by Motor Boat

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navigate the canal AT OUR OWN RISK. He also generously offered to instruct all canal employes to lend us every possible assistance. At best, the outlook was far from encouraging. The superintendent assured us that we'd find a minimum depth of 20 inches of water between Ottawa and Joliet, which with the Transcontinental's draft of 18 inches was sufficient to let us through. But, we faced a difficult problem in getting the boat into the canal at all with 15 miles of dry land at the west end of the canal. There were just two ways this problem could be solved. One was to portage to the water at Ottawa. The other was an attempt to navigate up the unnavigable Illinois River to Ottawa, go up the Fox River to the point where it flows under the aqueduct that carries the Illinois and Michigan Canal over the Fox River, and then manhandle the boat into the canal from the Fox River. We chose the latter method for the sole reason that we were out to cross the continent by water, and with only one portage. We had already made one unanticipated portage of three miles around the Cascade Rapids in the Columbia River, and had no desire to make additional portages whether they might be long or short.

So, with this far from rosy prospect ahead of us we set out from Peru, Illinois, that Sunday morning, August ninth, to attempt getting up the Illinois River, and into the Fox River at Ottawa. The pollution of the river above Peru is utterly indescribable. The water is as black as India ink, full of masses of floating sewage, and with a stench that assails the high heavens. This is the river, once one of the most beautiful and lovely streams in the state which now flows past the Illinois State Park, and around the base of Starved Rock—the cradle of history of the commonwealth of Illinois, La Salle would turn over in his grave, hold his nose and shudder, if he could see the river of today that he so valiantly explored. Undoubtedly too, the valorous Indians who starved to death on the summit of Starved Rock rather than surrender to their enemies, would prefer death by starvation to seeing their once glorious domain transformed into a cesspool of filth that white men have made of it. A few miles above Peru, Woodbury consigned his breakfast to the horrors of the pollutted river, while Wilton and I gagged and bore it, attempting to get some measure of physical relief by tying wet towels over our mouths and noses. Here, Wilton, who was forever experimenting with mechanical improvisations, turned his sun visor eye shade upside down under his nose. He claimed that it deflected the rising gas from the river away from his nostrils. Although he wore it that way until we reached Ottawa, and declared it a success, my own opinion is that it formed an eddy where an eddy was least to be desired.

In spite of the horrible pollution of the river we found Starved Rock festooned with people, the shores in the vicinity lined with automobiles, and excursion boats thronged with people whose desire to visit this birthplace of state history was as strong as their stomachs. We encountered very swift water around the base of Starved Rock, and a mile above it came to a rapid where we could barely move against the current. Nowhere did we find more than 20 inches of water, and more often it was difficult to find sufficient depth to keep Transcontinental off the bottom. The bed of the river in the vicinity is nothing but rock, and when we grounded as we frequently did, it was usually to lose a shear-off pin, or knock a propeller out of shape against the rocks. It is 18 miles from Peru to Ottawa by way of the unnavigable river, but in spite of the difficulties encountered, we put-putted into the Fox River at Ottawa about four o'clock that afternoon. Although we went aground several times in attempting to get up the Fox River to the Illinois and Michigan Canal aqueduct crossing, it was such a relief to get into clean water that going aground on a sand bottom was a mere detail. Arriving at our destination for the day, I found it impossible to recruit the necessary men to attempt juggling Transcontinental out of the Fox River and into the canal. It being Sunday every able bodied man in the town seemed to be out on holiday. Monday morning, however, with the aid of Mr. Brown, the canal toll house keeper, we got a crew of men together, and by shear brute strength and awkwardness yanked the boat out of the river, yo-heaved-it up the sixty foot embankment, and set it down in the canal.

The Illinois and Michigan Canal is 63.6 miles in length, and in this distance there are eleven locks. Due to the canal being officially closed to navigation, the keeper at Ottawa could not assure us that we'd get lock service unless we provided it ourselves. The same thing applied to the numerous low bridges that span the canal between Ottawa and Joliet. He promised us, however, that he'd get busy on the phone, and endeavor to round up as many of the bridge and lock keepers as possible. We found later that he had fair success with the lock keepers, but very little with the bridge tenders. Fortunately, however, there were only two bridges out of the long list of structures that we failed to pass under. We took down the bows, and removed everything removable to give the boat the lowest possible clearance under the bridges. Then, as luck would have it, the two tenderless bridges that we failed to clear were sufficiently high to let us under by loading a few rocks aboard the boat to depress her hull. We found the lock keepers on the job at the first four locks and got up through the dilapidated old wooden structures with a minimum of delay. But, we found the fifth lock deserted. Inquiries about the neighborhood revealed that the lock keeper had motored off to Joliet, and there was no telling when he might return. None of us had ever had any experience in operating a lock, but the job didn't seem to appear past the mastery of ordinary human intelligence, so we went to work to lock ourselves through. We got the lower gate open, the boat into the lock, and then the sluice gates opened above. When the water level failed to rise, we discovered that the water was running out through the leaks in the rickety lower gate as fast as it ran in from above. Thereupon I borrowed a hammer and a few nails from a nearby farm house, fished several driftwood boards out of the canal, and nailed the boards over the leaks in the lower gate. With the worst of the leaks partially stopped the water in the lock began to rise. Half an hour later we still lacked about six inches of having the levels even in the lock and in the upper canal. The water was going out the lower end so fast that the lock level would rise no higher, and the pressure from above made it impossible to open the upper gate. After all efforts to open the gate had failed, the farmer from whom I'd borrowed the hammer and nails, brought a block and fall. Then with all hands tugging on the rope we managed to pry the upper gate open. The two water levels equalized almost immediately, and we got the boat out of the lock. But, before leaving we were careful to close the upper gate again. We didn't want to take a chance on letting the whole canal run out if the lower gate collapsed, as it appeared to be in grave danger of doing at any minute.

From Ottawa to Lock No. 6 the Illinois and Michigan Canal for a distance of 34 miles, is fed by a number of small creeks and streams that eventually flow to the Illinois River. This portion of the canal is therefore clean water—the first clean and odorless water we'd been in since leaving the Mississippi, with the exception of our little two mile run in the Fox River. Just the pleasure of being in clean water again was ample compensation for offsetting the other difficulties we experienced in the canal. But, a cruel surprise awaited us at lock No. 6. There we found the lock keeper on the job, with the lower lock gate open. We drove right into the lock—and instantly became aware of where the water used on that portion of the canal came from. Mirable dictu—it was like driving from clean water into a cesspool. And the worse luck—it was a case of remaining in the boat while we were locked over, or attempting to climb out up the slime-smeared walls of the lock. A real description of that locking couldn't be printed.

The remainder of the Illinois and Michigan Canal into Joliet contained the same variety of fluid as lock No. 6. Thus, we negotiated the last few miles as we did the upper Illinois River—with wet towels over our mouths and noses, and with Wilton wearing a wet towel plus his inverted sun visor. We arrived at Joliet about seven o'clock that evening. Leaving the boat in the care of the collector of the port, we hailed a taxi, and told the driver to take us to the best hotel that was the farthest away from the river and canal.

The following day we got an early start because we knew we faced the ordeal of getting over the unworkable lock at Lockport. The run of five miles from Joliet to Lockport was made in an hour despite the swift opposing current. Still in waters polluted to the Nth degree we faced one of the most difficult labor jobs of the entire transcontinental cruise. We came up below the dismantled lock in a rock-walled canyon where the banks were from 8 to 20 feet high, and practically perpendicular. Hunt as we would for a place where the boat could be pulled out, the best place we could find was an opening under a railroad trestle where it would be necessary to lift the hull a perpendicular 8 feet with almost no place for men to stand while conducting the

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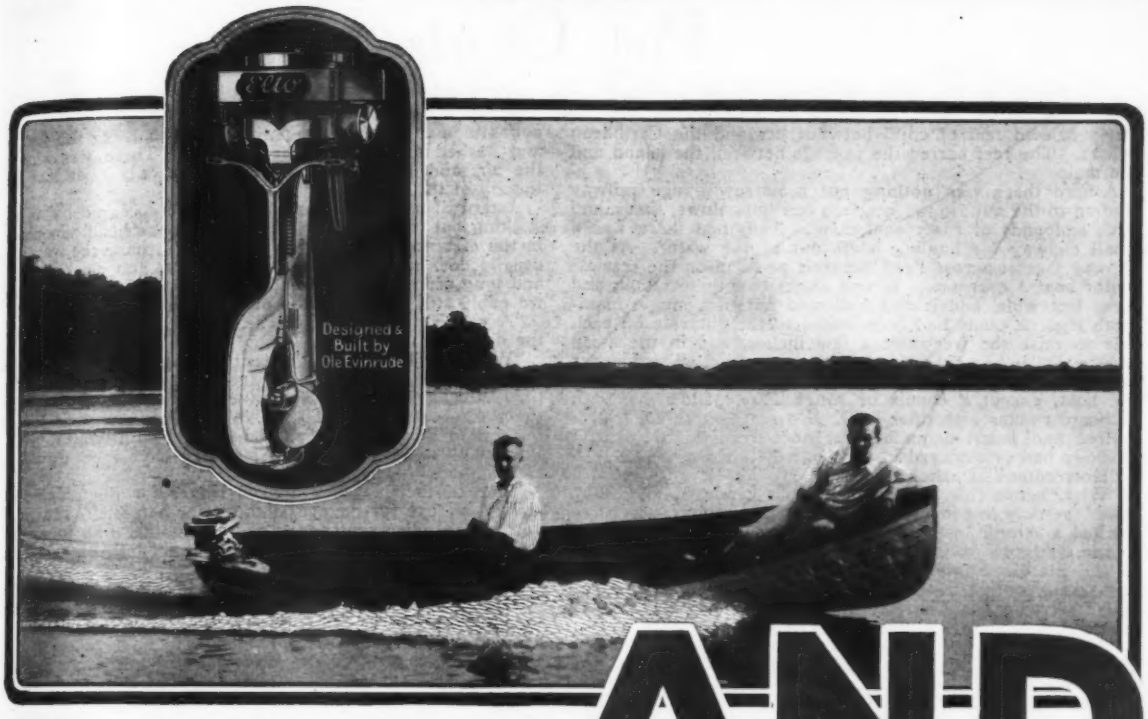

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"Starts on a quarter turn"

Super Elto

Pink Clouds

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but a sunken reef of coral between her and the Caribbean rollers. The reef barred the passage between the island and the main.

Ashore there was nothing but a narrow gauge railway leading to the mine in the jungle, a few bungalows, sheds, and odds and ends of rusty equipment. And then there was a small slipway for hauling boats out of the water. At the slipway I came across Fred Beecroft working on the craziest motor boat I ever saw. It was about twenty feet long and three feet wide, and it was hollowed out of a single mammoth log. A plank had been nailed to the gunwale on each side to raise the freeboard a few inches, and in the stern was a little two-cylinder two-cycle engine. The copper gasoline tank was in the bow, and that's all there was to the boat, except a couple of rough-hewn paddles, and an outboard rudder with tiller lines. No seats—nothing.

Fred and I got acquainted at once and he said that if anybody had ever played in hard luck he was it.

"How come?" I asked.

"Why, here's this cayuca, or dugout canoe of mine," he said, "the only one in the world that has a motor in it. I've worked a month installing the engine and getting it ready to run, and now your Ophir has arrived to take us all back to the States. Some doggoned politician in Panama City has taken control of the mine away from the Americans, and Dad, who has been the engineer in charge, is sacked, bounced, fired, and out of a job."

"That is tough luck," I agreed. "But maybe your father can get a better job in the States. And the Ophir is a fine ship. We'll have good sport going home."

"Oh, I know the Ophir," said Fred. "She's been here before. But I did want to get in a couple of cruises in my boat."

"Will she float?" I asked, not knowing much about small boats.

"Float!" cried Fred. "Why these cayucas are the best boats in the world, bar none, and my little motor gives her a speed of seven miles an hour. She's wonderful."

So we pushed the cayuca off the slip into the water and all that day fooled around in it. I had to admit that she was wonderful and that it would be a terrible thing to go North without at least one cruise in her. We went around the island—not being able to go over the reef without striking the propeller—and out into the swells of the Caribbean where she rode like a duck, small as she was.

"Feel sick?" asked Fred, looking at me anxiously.

"Not a bit of it," I replied. "I've been afloat for three weeks, remember."

"That's fine," said Fred. And then—"Look here, I'm expecting a message from an Indian boy down in the San Blas country. He's an awfully good scout named George something-or-other who speaks English like a streak. He wants to go to college in the States and would have shipped as a sailor on the Ophir the last time she was in if I hadn't persuaded him to wait and go North when I go. If the message comes tonight are you game to go to San Blas Gulf with me tomorrow? We can get there and back in a day if we start early, and the Ophir won't sail for two days. Are you on?"

"Absolute. What's the rest of the dope?"

"No questions answered before leaving—except that it's a rescue party. I'll send word aboard the ship if I get the message."

So we put back to the Playa (which means beach in Spanish) and moored the cayuca and had a swim in the warm, delicious water. And by that time the sun was setting and the clouds were lighting up.

"A fine day tomorrow," said Fred, looking aloft. "I hope the party is on. It will make up for leaving the tropics so soon."

Not to make too much of a mystery of it, the message came. On the following morning at 6:30 Fred and I shoved off for the San Blas country with the gas tank full, and with some water, mangoes, oranges, and cocoanuts in the bottom of the cayuca, covered from the direct rays of the sun by a piece of burlap. Nobody saw us go, except maybe the quartermaster on watch, and he had nothing to say about it.

Rounding the island we headed east along the shore, and found the sea looking like blue marble glass. A smooth, lazy swell rolled in and curled on the yellow sandy beach. Shoreward, although we could not hear them above the hum of the engine, we knew that every parroquet and monkey in the matted jungle was shrieking to its heart's content. Far away in the path of the sun, a big fish jumped and flashed and greeted the morning. There was wine in the air, and Fred and I were not the only ones that felt the zip of it.

Astern of us, Cuilio Cay, fringed with cocoanut palms and sticking out from the coastline like a boar's head, diminished in the distance. But it didn't dissolve in haze the way land usually does in the tropics. The air was too clear for that, and long after the island had slid over the rim of the world we could still see the masts of the Ophir rising behind it.

"A corking day for a rescue, Fred," said I. "Now spill the dope."

"Well," said Fred. "It's easily spilled. These San Blas Indians have never been changed by civilization. They're the same as they were when the Spaniards first discovered them 400 years ago. They live like flies on their islands in the San Blas gulf, and they don't mix with whites, blacks, Panamanians, or anybody. Also they have their own laws and customs.

"One of their laws is a dead ringer for the old Mosaic law of 'an eye for an eye, a tooth for a tooth.' That is, if you're an Indian and you carve up another one in a fight, they tie you up when they catch you and let him carve you the same way.

"Now my friend George that I told you about yesterday got in wrong with his chief by disobeying this law. He was badly stabbed in a row over a piece of tortoise shell—his right chest muscles laid open—and he refused to stab the other fellow when he was well enough to be up and around. He said it wasn't Christian. The chief of the island said he didn't care if it wasn't—it was the tribal law.

"Finally, after about a week of holding out, George tumbled to the fact that he didn't have to stab the man as badly as he had been stabbed. He could just 'pink' him, the way French duellists do. But by that time the Panamanians got wind of it, and when George pulled his stuff they arrested him for murderous assault."

Fred interrupted himself to screw down a grease cup and I looked over the side at the blue sea heaving us slowly on its unrippled surface. The wild jungle slipped by us, unbroken by human hands. Primitive was the word. Everything above, below and around us was primitive except that little engine that was pushing us down to the San Blas gulf.

"But, Fred," I said, as if I'd been thinking out aloud. "These Indians are a primitive people. How come they let the Panamanians arrest your friend George?"

"Down toward the Colombian border they wouldn't. They'd blow your hide full of poison darts if you attempted to interfere with them. But up this way they're a peaceful people. They sell their cocoanuts and their shell to the Panamanians. And don't forget that George had held out against the tribal law.

"So now the spiggoties are holding the Indian boy prisoner on their own island at the entrance to the Gulf. They'd have taken him to the Chiriqui jail in Panama City a week ago if their darned old motor boat hadn't broken down. I heard about the arrest the day after it happened and I sent word back by an Indian that if George wanted any help I'd try to give it. Last night he sent me a complete plan for rescuing him. But we've got to act pronto because they intend to take him up the coast today."

"But what can we do, Fred?" I asked. "Just us two against the Panama army?"

"They haven't any army," declared Fred scornfully. "All they've got is a couple of halfbreeds with a sergeant in command. If the Governor weren't away on a vacation it would be different. But then the Governor wouldn't have arrested George. It's all the doing of this ignorant sergeant, who took the law into his own hands. We'll get around him, and don't you forget it."

"Well, I'm with you, Fred, but I hope we don't have to line the guard up against the wall and shoot the engine at them. You haven't any firearms, have you?"

"No, and we don't need them. This is going to be a game of bluff, and if you don't mind I won't put you wise. One can play that game better than two."

The miles sped behind us as we followed the tropical shore toward the San Blas gulf. We half sat, half lay in the bottom of the cayuca facing each other, our heads level with the gunwales. Fred was aft, nearest the engine, which he greased occasionally or patted to see that it wasn't too hot. As for me, I felt my skin burning under my cambric

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Pink Clouds

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shirt. An awning between us and the cloudless sky would have improved the cayuca a hundred per cent. A plate of ice cream instead of a plenty of warm oranges would have scored ten bulls-eyes, and a breath of wind would have been a godsend. None of which we had.

At noon we rounded San Blas Point and saw the scattered islands of the gulf shimmering in the blazing sun. Far and away they stretched, each one packed close with thatch huts and crowded with Indians. In the foreground was the isle of Porvenir, where the Panamanians have their port of entry. In the lee of it as we left the open sea we uncovered a ramshackle dock with a few cayucas and a 65-foot motor boat moored beside it. Working on the boat or on the island were a few halfbreed Panamanians. But the Indians, who hate all foreigners, were as scarce as apples on a banana tree.

Fred brought our cayuca alongside the motor boat and we stepped ashore across it, glad to stretch our legs after six hours on the water. Three halfbreeds followed us ashore and one of them asked us what we wanted.

"The Governor," said Fred although he knew that the Governor was away—"permission to visit the islands of the gulf."

"See Sergeant Nunes in the customhouse," suggested the halfbreed. "Maybe he'll fix you up."

So we walked across the hot sand to a galvanized iron shack which faced the sea, and the halfbreeds followed behind in idle curiosity. When we entered the little building and sat down before the sergeant's desk, the others lined up outside the window. Momentarily others joined the first three and before the sergeant came the entire population of the island, numbering about a dozen, awaited the interview of Nunes with the Americans. From where Fred sat he could look over their heads and down to his treasured cayuca moored to the motor boat.

"A fine little outfit," said Fred to me, meaning the canoe. "All this way without a miss, and she'll do it over again."

Just then Sergeant Nunes entered the shack, looking like a comic opera soldier. He wore a khaki uniform, and on his head, in spite of the heat, he carried a tin trench helmet. A bushy black beard straggled over his chin and cheeks and almost up to his shaggy eyebrows. His face—what could be seen of it—was a chocolate brown, and his protruding eyes were black and burning. He looked as if he would have stolen a dead mouse from a starving kitten, and I knew from Fred that at least once he had done worse. He had ordered the Indian women of a nearby island to give up the wearing of gold rings in their noses because it was unhealthy. And he had converted the gold to cash and pocketed it for himself.

This strapping ruffian, whom Fred intended to outwit, sat down at his desk and asked a question in Spanish. Neither Fred nor I made answer, and he bellowed for an interpreter. The halfbreed who had already spoken to us clambered through the open window like a monkey, and put the question in English—"What do you boys do in the San Blas country?"

"Tell him," said Fred to the interpreter, "that we came for excitement and to visit the islands where the Indians live. We shall not trade with them."

"He says," came from the interpreter, "that that is impossible. He wants to see your papers."

"We haven't any. We are just a small pleasure boat."

This also was turned into Spanish and answered in English. "He says that it makes no difference how small your boat is. If you have power you are the same as an ocean liner. You must have clearance papers."

"Tell him," said Fred, "that we come from Playa Cuilio where there is no customhouse. My father is engineer at the mine. Perhaps that will make him change the rules to fit our case."

"The sergeant says," replied the halfbreed a moment later, "that your father is being fired when the Ophir sails the next time, and he thinks you had better go back with him."

As if he had misunderstood the interpreter's words, Fred declared, "Please thank the sergeant for his kind inquiry after my father. Say that I and my father are delighted that Porvenir should be controlled by such a strong but kindly man, and that I am very anxious to observe for myself the good affect of his honest and courageous rule of the Indians. Say that I shall be glad to pay whatever fees are necessary."

While this was being translated I saw Fred look through the window with the faintest expression of anxiety on his face. A second later his brow cleared and his eyes twinkled. He had said he would play a bluffing game, but at that stage in the conversation I couldn't for the life of me see how he was going to rescue George.

Nor did the sergeant's answer seem to help our cause. Through the interpreter came the words, "Although no explanation is necessary, the sergeant is kind enough to tell you that the Indians are in a state of unrest. A desperate criminal has been taken from them, and this afternoon we are carrying him to Panama City for trial, conviction, and life imprisonment. The sergeant made the capture himself in the face of great odds, and he is himself going to press the case and receive the reward of his grateful Government. Without the sergeant to restrain the Indians, your lives would not be worth much in their villages."

Knowing what I did about the desperate criminal I could not repress a smile—and then wished with all my heart that I had kept my face straight. Sergeant Nunes, seeing my smile, spoke long and rapidly while the crowd at the window tittered and finally broke into a roar of laughter. There was sarcasm in his tone, and I am sure there was insult in his words. But the interpreter declared:

"Sergeant Nunes says that all Panamanians are acquainted with the courage of Americans. The younger they are the more courageous. No doubt you two young gentlemen would be willing to fight the entire San Blas nation by yourselves. But the sergeant advises you to leave such matters to those who have the misfortune to be twice as old as you, and to return at once to Playa Cuilio."

As the interpreter finished the sergeant rose and swung the door of the shack open, and although I started to protest he motioned us to leave. Fred dug me in the ribs, and we regained the open air.

"Gosh, Fred," I whispered, "I spoiled your game before you played your hand. Is there anything I can do to make up?"

"Mum's the word, Joe," replied my friend. "The game was played before you cracked your smile. Let's beat it."

"Then you're not going to try to rescue the Indian?"

"Let's beat it," repeated Fred. "We can talk more freely on the water."

Not too quickly we walked back to the dock, stepped across the motor boat, and into our cayuca. Then I had the surprise of my life.

The pile of fruit in the bottom of the canoe had more than doubled in height and length, and the burlap which covered the pile could not quite conceal a bare foot at the forward end. I happened to have enough sense to drop my sombrero over the foot, but my hands trembled so that I could barely cast off the bow line.

"Pick up your paddle, Joe," said Fred as calmly as a veteran campaigner. "I shan't start the motor until we get clear of the island."

Somehow I cast off the line and dipped my paddle. The islanders were collecting on the dock to see us off, and at any moment one of them might become suspicious of our cargo.

One stroke and another while Fred backed water and we turned around; a third deep stroke, both together, and we shot ahead; steady, powerful paddling and the gap between boat and shore widened to a hundred yards.

"They can't see into the boat now," said Fred. "Keep paddling and I'll start the motor. If we get half an hour's start their 65-foot tub will never in the wide world catch us. Keep paddling."

And at that instant, when my heart was again beginning to beat a steady tune and we were making an unsuspected getaway, the burlap in the bilge heaved up. George, round-faced, black-haired, barrel-chested like all his tribe, rose to his knees and shouted derisively. With a swing of his arm he cast something into the sea. "Four spark plugs," he cried. "Catch us if you can." The boy, who had gained his liberty by forcing a cabin door of the motor boat, had stripped the engine of its plugs before leaving.

A yell went up from the shore and men who had probably never run a step in their lives dashed up and down—this one for a pistol, these two for a cayuca. George, instantly realizing his folly, picked up Fred's paddle and dug for all he was worth, with the wide oar-like stroke of the Indians. Fred worked madly with the engine and I helped as I could with the bow paddle.

A revolver cracked astern and a bullet skipped along the water. "Faster, mister," cried George to me; "take a zigzag

(*Continued on page* 156)

Creating a proper proportion of Waterfront Property

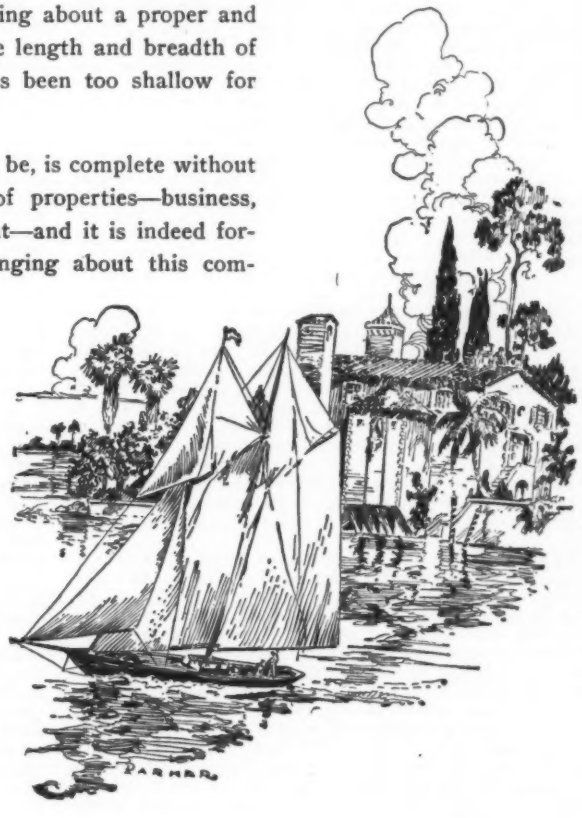
for a potential city of a million on the sheltered waters of Biscayne Bay

AND that is just what we are doing in the building of VENETIAN ISLES. Not only this, but we are improving all other waterfront properties in the vicinity by virtue of the fact that the creation of these islands is bringing about a proper and satisfactory depth of water throughout the length and breadth of upper Biscayne Bay, which heretofore has been too shallow for general boating purposes.

No great city, such as Miami is destined to be, is complete without its proper proportion of various types of properties—business, apartment, hotel, residential and waterfront—and it is indeed fortunate that VENETIAN ISLES are bringing about this completion of Nature's destined plan.

VENETIAN ISLES have been so planned that each resident on the waterfront property of these islands can tie his yacht at his own front door.

If the history of profits and increase in values from the time Miami was founded until to-day, of all waterfront property, is any reasonable criterion to go by, then we submit that VENETIAN ISLES properties, as Miami grows from her present population to her destined population of a million people, will enjoy constantly increased values.



VENETIAN ISLES

Gems of America's Mediterranean

107 N. E. SECOND AVENUE MIAMI, FLORIDA

By Waterways to Gotham

(*Continued from page 24*)

ing that or anything below, including Lachine, at Montreal.

Running out of Kingston Harbor immediately after lunch, I was into the Thousand Islands within a few miles. As in the case of the Thirty Thousand Islands of Georgian Bay, nomenclature here has been conservative. By actual count, there are 1,692 more or less extensive bits of rock breaking through the surface of the St. Lawrence between foot of Lake Ontario and Prescott, fifty miles below. Certainly no Yankee land promoter had anything to do with bestowing the name. Off the Florida coast that number of islands would never be rated at less than a million, "and every one of the milyun blessed with the full inflooence of the God-given Gulf Stream, sah!"

It is customary to apply the name St. Lawrence only to the seven hundred miles between Lake Ontario and the Atlantic. Strictly speaking, however, the head of that river system would be found at the fount of the remotest tributary of Lake Superior, over two thousand miles from the sea. There are many longer rivers than this, but probably only the Amazon discharges a greater amount of water. Despite its great flow, however, there is no other great river with so inconsiderable a seasonal fluctuation. This is due entirely, of course, to the fact that floods are stored and the flow equalized in the reservoir of the Great Lakes. There, also, all silt is settled. The waters of the St. Lawrence are as notable for their crystalline clearness as are those of the Missouri and the Colorado for their muddiness.

Running close to Whiskey Island, generally rated as the first of the Thousand, I crossed a broad patch of well-charted shallows and cut several miles off the somewhat circuitous steamer channel. Jazz bands were rending the pure river ozone to left and right as I turned in toward the pretty resort town of Clayton, but I thriftly ran the gauntlet for the sake of saving fifteen cents a gallon on American over Canadian gasoline. And the strains of jazz assailed me from port to starboard as I sped through the lengthening end of the afternoon past the thronged resorts of Thousand Island and St. Lawrence Parks. Salvoes of jazz exploded in the purple twilight as I scudded by Alexander Bay, and jiggers of jazz stabbed down at me through the darkness from an excursion steamer as I took my course from the winking light buoys and drove on between the Summerlands and the Excelsiors. And when I had made precarious camp for the night on a bare rock called Poverty Island Shoal, a speedboat from Goose Bay laid up alongside a neighboring pinnacle and a lovesick youth poured out his soul to the stars by playing "Oh, Boy What a Girl!" on a catarrhal saxophone.

The Thousand Islands must have been a really delightful retreat in those halcyon days when there was nothing worse to disturb the visitor than the gentle Iroquois and his scalping-knife.

Passing Grenadier Island the next morning, my course was down a broad expanse of almost currentless river many miles in breadth. The hitherto widely separated American and Canadian channels had now united, with the international boundary line running almost along the middle of the river. Many Indian legends cluster about this section of the islands, which is also credited with being the locale of the culminating scenes of Cooper's Pathfinder. Brockville, with its Indian picture-rocks, was sacked during the War of 1812 by an American expedition which crossed the river on the ice. The picturesque town is near the foot of the Thousand Islands. Running by the Three Sisters group just below, I became aware for the first time of a slow but steady downward set of current. It was good to feel moving water under the keel again.

Ogdensburg, with its many factories blackening the southern skies, offered the last opportunity to tank up on cheap Yankee gasoline before the river swung north into Canada away from the boundary line, but the fact that I was on the Prescott side of the river, with the first lock of the St. Lawrence canal system close at hand, made the run across several miles of wind-blown waters more trouble than the carrying out of the patriotic impulse to foster home trade was worth.

An artificial channel dredged between Spencer and Drummond Islands led down to the head of the Galop Rapids and the entrance to the canal of the same name. It looked like an easy, comfortable run down through the long, undulant waves, but because it is required that one apply for a permit at the upper locks it was necessary to make the passage by at least a part of the canal. And so it was that, taking the longest way round which is also supposed to be the shortest and safest way out, I lost a couple of hours of time and came uncomfortably near to losing my boat and outfit.

Nothing is more of a nuisance to lock-masters putting through a heavy run of steamer traffic than small pleasure craft. Notwithstanding this fact the men in charge of the busy St. Lawrence River locks were no less courteous to me with my little toy outfit than had been those of the Trent Canal with their average of only a boat or two a day. It was only reasonable, however, that the lock authorities should expect pleasure craft to save the time of all concerned by going through with the regular traffic, where the size of the lock permitted. So when one of the hands at this first (or rather the last, for it was Number 28) of the locks of the St. Lawrence system signalled for me to run in and lock down with a big Great Lakes freighter, I was entirely willing to fall in with a plan which would save my waiting while the big basin was emptied and refilled.

The lively diversion that followed was probably due to two things—my failure to demand mooring lines and the neglect of the lock men to tell the captain of the freighter that there was a very small open boat drifting at large in the scant thirty feet of space between his stern and the lock gates. Settling down gently and quietly enough until the gates ahead were opened on reaching the lower level, there was no trouble until the impatient skipper had rung up a sufficient rate of revolutions on his engines to turn the back of the lock into a veritable maelstrom. Unable to use more than one oar at a time, I was bumped impartially against the concrete sides and the steel gates, before being caught in a forward suck intent upon drawing my boat in between the slowly accelerating freighter and the lefthand wall.

Fending off from the wall with a prodded oar, I drove the boat under the projecting stern of the freighter and, inevitably, onto the boil of water above its spinning screw. Fortunately, the tendency of this aspiring geyser was to exert an outward fling rather than an inward draw. So the only consequence of my running into it was for the boat to roll half over and then go reeling back, broadside, against the gates. Here the forward suck began to work again, but before the next round of the vicious circle was under way I caught a line flung down from above and the funny little impromptu monkey-show was over. The captain of the steamer probably never knew what had been going on. Indeed, the first word that even the lock-master had of it was when I went up to his office for a permit and had to explain my skinned knuckles.

A man navigating a small craft among large ones in restricted spaces, and especially those in which such violent currents are set running as in locks, cannot possibly be too careful. Locks, under these conditions, are far more dangerous to small boats than are rapids. I would vastly prefer to chance an upset in any rapid I saw on the St. Lawrence to playing again that altogether disconcerting game of pitch-and toss with that relentlessly revolving propeller and the gates of the lock. A little more care on the part of the lock-hands, the steamer captain or myself would almost certainly have prevented trouble in this instance. And yet, with both eyes and doing the very best I could, I ran right into a no less serious traffic mix-up with a steamer the following day.

The Galops Canal continued several miles farther down the river to another pair of locks at Iroquois, but this lower section was only for the use of up-stream traffic. I found only a three- or four-mile current on running out into the river at the foot of the upper locks, but the viciously side-swiping wind sweeping around Lotus and Lalone Islands made for very sloppy going. Chilled with blown spray, I was glad to tie up opposite Iroquois and camp for the night on the grassy bank above Lock 25.

Without abating a whit of its force, the wind shifted during the night and by morning was chilling the blue-green St. Lawrence with the frozen breath of the plains of Labrador. Rolling out of frost-stiff blankets at daybreak, I shared a pot of coffee with the friendly night-shift men of the locks before pushing off onto a river torn with white-caps and streaked with blown spray. Rapide Plat proved easy running, and by taking the course down the narrow channel past Ogden Island I avoided the delays of passing through the winding Morrisburg Canal and Locks 24 and 23. When the rapid paralleled by the Farren Point Canal showed water unbroken save by the force of the wind I decided to run on past the entrance of the Cornwall Canal on the chance that its many locks and nine or ten miles of quiet water might be avoided by running the Long Sault.

Of all famous Canadian rapids, the Longue Soo has undoubtedly been the one most celebrated in song and story. This was not because there were not many worse rapids on other rivers, but rather because, doubtless, a tradition for

(*Continued on page 118*)

The Pulling Power of the Waterfront

THERE is an absolutely *irresistible appeal* to waterfront property. Nothing can change it. It is only natural that those who have always thought of South Florida as the one place where they would wish to enjoy the majesty of Nature at her best—out-of-doors—should desire the water's edge.

It is perfectly natural, therefore, that the great 600-acre MIAMI SHORES ISLAND, at the head of Biscayne Bay is proving so irresistibly attractive. This island is of such dimensions that it embraces all types of property. It is nothing more or less than a complete community in itself, with its lakes, inland waterways, golf course and recreation park, to say nothing of its tremendous expanse of Biscayne Bay shoreline.

And then, from the standpoint of accessibility, being connected as it is to be, with MIAMI SHORES mainland via the magnificent 100-foot Causeway, which is now under construction, it is little wonder that those who know values in the Greater Miami district appreciate the intrinsic merit of MIAMI SHORES ISLAND.

And on these lakes, inland waterways and the Biscayne Bay shoreline, it will be possible to enjoy to the utmost boating of every kind. A private yacht basin at your front door, leading to Miami, Miami Beach and the Ocean — think what this means to the yachtsman!

MIAMI SHORES

America's Mediterranean

125 E. Flagler St. Miami, Florida

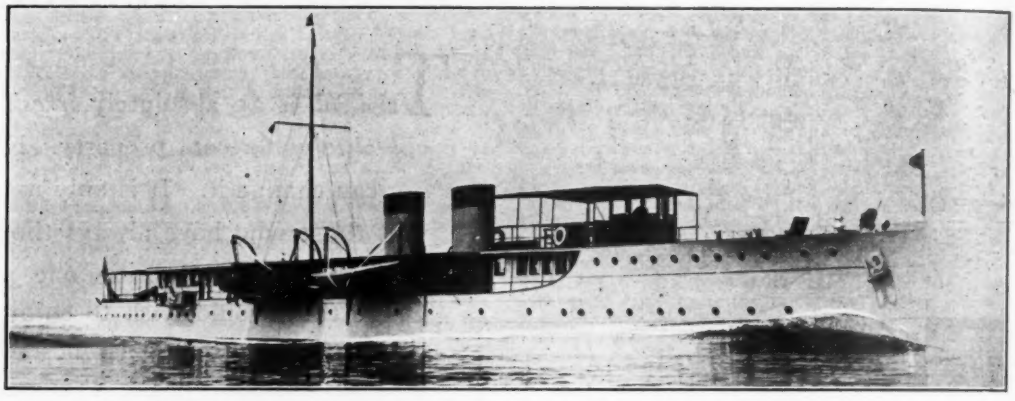
Cable Address: BROKERAGE, NEW YORK

COX & STEVENS

Telephone: WHITEHALL 2710

NAVAL ARCHITECTS—MARINE INSURANCE—YACHT BROKERS
25 BROADWAY, CUNARD BUILDING (Morris Street Entrance), NEW YORK

On this page are shown a few representative yachts selected from our large lists. Should none appeal kindly acquaint us with your requirements. Full information regarding costs to build, purchase or charter yachts of all types gladly furnished.



No. 2887—Largest, high-speed Seagoing Yacht in existence. Our design. Embodies sped of destroyer with comfort and beauty of modern yacht. Speed up to 32 knots. Oil-fired; turbine driven. No vibration. At ordinary speed is economical as ordinary cruising yacht. Ample accommodation. Available at less than one-fourth cost of duplication. Cox & Stevens, 25 Broadway, New York, N. Y.

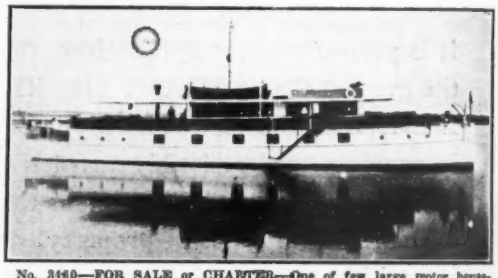
FLORIDA OFFICE
IN
HOTEL McALLISTER, ARCADE, MIAMI, FLORIDA

Mr. Thomas C. Landi, head of our Brokerage Department and member of the firm, will be at the above address for the Winter season.

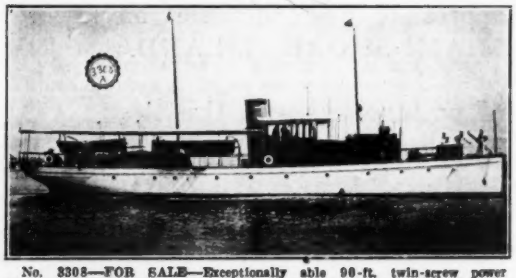
He will have plans, photographs and particulars of all the available yachts for Winter or Summer use. He will also have a full set of booklets of photographs of our latest type Diesel yachts now building and already built. He will also be able to quickly secure good Captains, Engineers and Stewards.

We invite you to take advantage of this service.

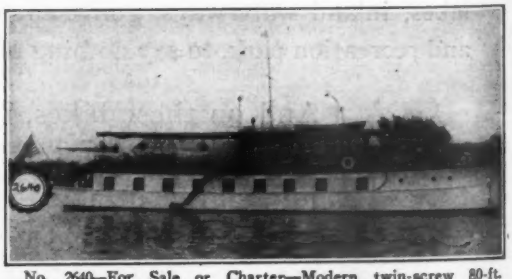
COX & STEVENS.



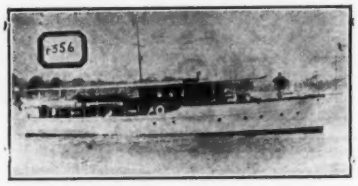
No. 3460—FOR SALE or CHARTER—One of few large motor houseboats available. Six staterooms, three baths, large deckhouse containing dining and social hall. Winton motors. Hot water heat. Splendid deck space. Prompt action will secure bargain. Cox & Stevens, 25 Broadway, New York.



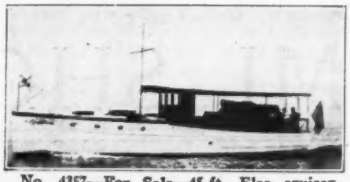
No. 3303—FOR SALE—Exceptionally able 90-ft. twin-screw power yacht. Speed up to 14 miles. Winton motors and auxiliary machinery. Accommodation includes dining saloon and galley in deckhouse forward; aft two double, two single staterooms, bathroom and two toilets. This yacht has always had the very best of care and is in excellent condition throughout. Has unusually large deck space. Completely equipped. Price very reasonable. Cox & Stevens, 25 Broadway, New York.



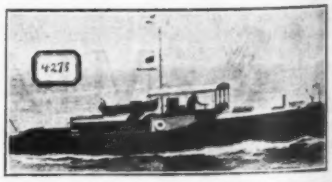
No. 2640—For Sale or Charter—Modern twin-screw 80-ft. Mathis motor houseboat. Speed up to 12 miles; two 6-cylinder Standard motors. Deck dining saloon; below forward two double and two single staterooms, lobby containing transom, two baths and toilet room. Excellent condition. Cox & Stevens, 25 Broadway, New York.



No. 4356—For Sale—Modern 65-ft. Matthews, twin-screw semi-houseboat cruiser. Deckhouse in mahogany. Forward dining saloon, two double staterooms, bathroom and two toilets. All conveniences. Speed, 12 miles; two 60 H.P. Standard engines. Inspectable Great Lakes. Cox & Stevens, 25 Broadway, New York.



No. 4357—For Sale—45-ft. Elco cruiser. One double stateroom and saloon. Sleep six people in separate berths. Standard motor, speed 11 miles. Exceptionally well equipped and in excellent condition. Price attractive. Apply Cox & Stevens, 25 Broadway, New York.



No. 4278—For Sale—Fast 56-foot twin-screw cruiser. Lawley built. Speed, 24 miles; two 6-cylinder 180 H.P. Speedway motors, new 1918. Mahogany hull. Double stateroom and saloon, toilet room, galley, etc. Price attractive for quick sale. Further particulars from Cox & Stevens, 25 Broadway, New York.

PLANS, PHOTOGRAPHS AND PRICES ON REQUEST

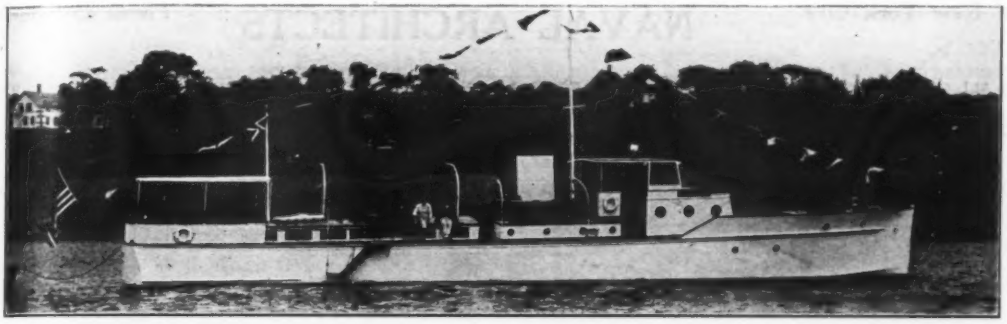
Advertising Index will be found on page 186

Advertising Index will be found on page 186

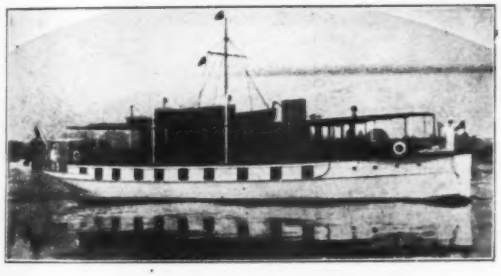
WILLIAM GARDNER & CO.

Naval Architects, Marine Engineers and Yacht Brokers

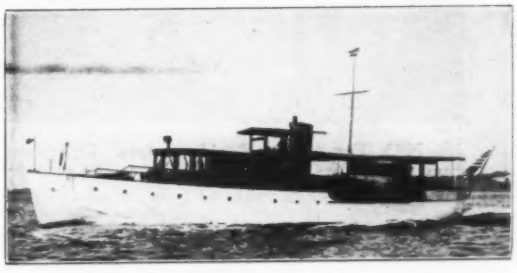
Phone 8638 Bowling Green NO. 1 BROADWAY, NEW YORK Cable Address: Yachting, N. Y.



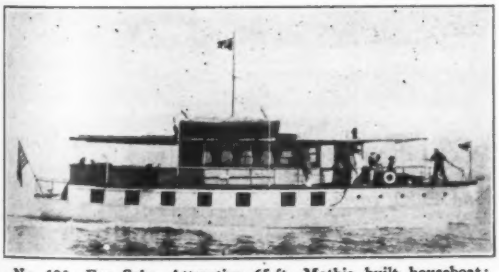
No. 2334—FOR SALE—Attractive 85-ft. twin screw Lawley built power yacht, euipped with two 6-cylinder 200 H.P. Sterling motors; speed, 16 miles. Deck saloon, 2 double and 3 single staterooms, bath room and additional toilet room. Everything in A-1 condition, ready for immediate use.



No. 202—Latest type houseboat, 85x17.2x3.8, built 1924, two 6 cyl. Speedway motors, speed 12 miles, commodious accommodation.



No. 1491—For Sale or Charter—Twin-screw power yacht, 83x14, two 6 cyl. 115 H.P. Speedway motors, speed 14 miles, large deck dining saloon and attractive owner's quarters.

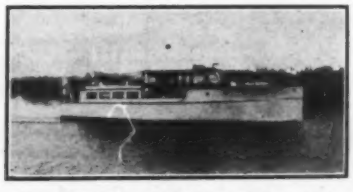


No. 183—For Sale—Attractive 65-ft. Mathis built houseboat; also several other houseboats, 60 to 100 ft., available for purchase and charter. Advise size desired and details will be furnished.

No. 1965—Twin-screw 75-ft. power yacht, Lawley built, two 6-cylinder Speedway motors, speed 16 miles, two owners' cabins and enclosed bridge deck. First-class shape.

No. 2897—In Florida waters, Elco cruiser 42' 6", two 4 cylinder motors, speed 16-17, fitted with fish box, chair and bait well. Excellent condition.

No. 2751—Shallow draft, twin screw motor boat, 54.6 x 11.3 x 2.6, two 4 cylinder 40 H.P. motors, new 1920, speed 12-14 miles. Owner has purchased larger boat. Offer solicited.



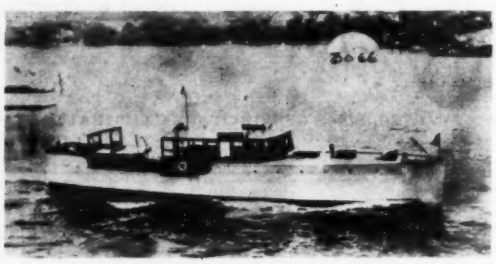
No. 2908—In Southern waters, twin screw bridge deck cruiser, 40.6 x 8.7 x 2.9, speed 12 miles. Boat well cared for and has had little use.

Advertising Index will be found on page 186

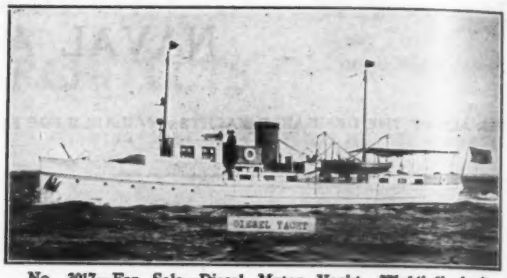
R. M. HADDOCK

NAVAL ARCHITECT **MARINE INSURANCE** **YACHT BROKER**

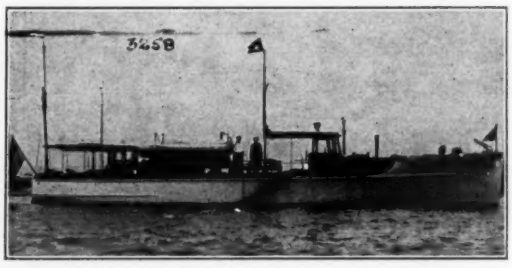
50 EAST 42nd STREET, NEW YORK CITY **TELEPHONE, VANDERBILT 1800**



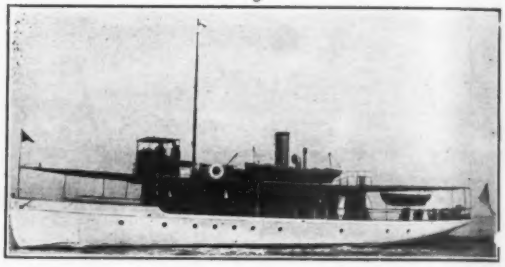
No. 3066—For Sale—Twin-screw motor yacht, 76'x14'x3'9' draft. Two six-cylinder Speedway motors, new 1925. One of the most desirable boats of her type now available. Sleeps six comfortably. New York inspection. For further particulars consult R. M. HADDOCK, 50 East 42nd Street, New York City.



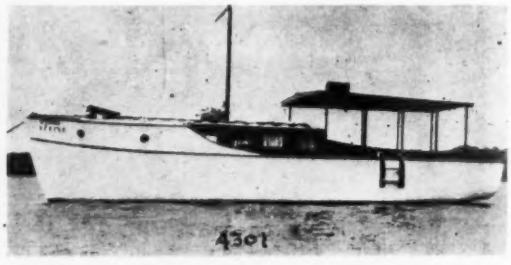
No. 3017—For Sale—Diesel Motor Yacht, 77'x14'x6' draft—cruising radius 1600 miles at 10 knots. Two double staterooms and saloon. Deckhouse. Can be operated at one-half the cost of gas driven vessel same size. All motor controls on the bridge. For further particulars apply to R. M. HADDOCK, Naval Architect and Yacht Broker, 50 East 42nd Street, New York City.



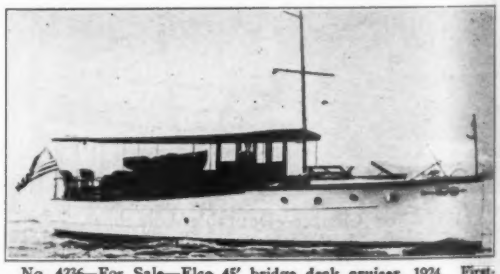
No. 3258—For Sale—Twin-screw motor yacht, 70'x14'x3'6" draft. New 1924. Two Speedway motors, speed up to 18 M.P.H. Accommodations consist of two double staterooms, bath room, large dining saloon forward; one of the finest yachts of her type available. For further particulars apply R. M. HADDOCK, Naval Architect and Yacht Broker, 50 East 42nd Street, New York City.



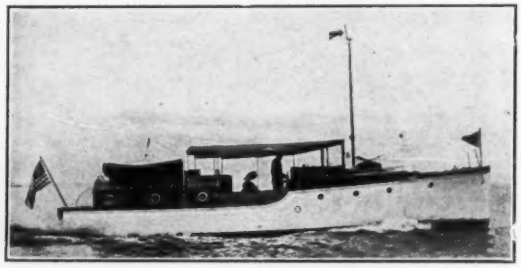
No. 2013—For Sale or Charter—Herreshoff steam houseboat, 90'x16'x6' draft. Three double and one single staterooms, one bath, two toilets. Triple expansion engine, new October, 1924. Very economical yacht to operate. A good sea boat. Inspection invited. For further particulars, etc., apply R. M. HADDOCK, Naval Architect and Yacht Broker, 50 East 42nd Street, New York City.



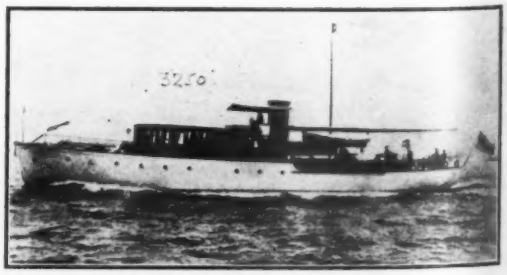
No. 4301—For Sale—34' raised deck cruiser. Built 1919. Sleeps four. Red Wing 28-36 H.P. motor. Installed new 1923. First-class condition. For further particulars consult R. M. HADDOCK, Naval Architect and Yacht Broker, 50 East 42nd Street, New York City.



No. 4236—For Sale—Elco 45' bridge deck cruiser, 1924. First-class condition. One of the few boats of this size and type now available. For further particulars apply R. M. HADDOCK, Naval Architect and Yacht Broker, 50 East 42nd Street, New York City.



No. 494—For Sale—Bridge deck cruiser, 44'x11'x2'6" draft. Sleeping accommodations for four persons; 4-cylinder, 60-80 H.P. Buffalo motor, speed up to 13 M.P.H. A very desirable boat for Southern waters. For further partciulars, etc., apply R. M. HADDOCK, Naval Architect and Yacht Broker, 50 East 42nd Street, New York City.



No. 3250—For Sale or Charter—Twin-screw motor yacht, 83'x14'x4' draft. Two Speedway motors, speed up to 14 miles. Sleeping accommodations 5-7. One of the best propositions of her size and type now available. New York inspection. For further particulars consult R. M. HADDOCK, Naval Architect and Yacht Broker, 50 East 42nd Street, New York City.

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Advertising Index will be found on page 186

Advertising Index will be found on page 186

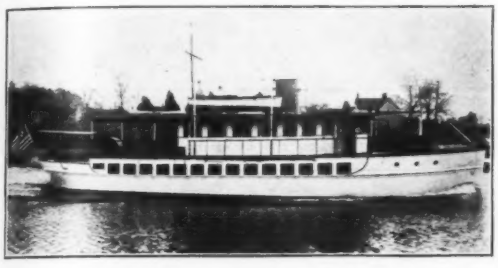
YACHTMEN'S SERVICE AGENCY

ARCHITECTS AND BROKERS

1233 REAL ESTATE TRUST BUILDING, PHILADELPHIA, PENNA.

PHONE PENNYPACKER 4830

A PAIR HARD TO BEAT

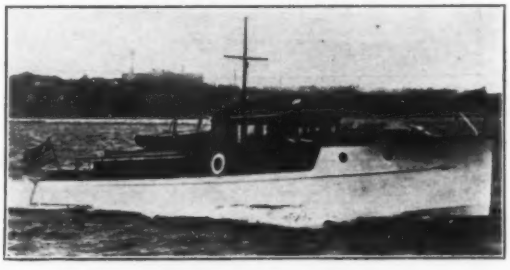


Home Comforts with Hotel Accommodations

FOR SALE OR CHARTER—80'x18'x3'6" Twin-Screw House Boat Cruiser. Two 6-cylinder Lathrop engines. Boat launched November, 1925; now in Florida. Exceptional deck accommodations, including large dining saloon, galley and pilot house. Below are five staterooms; four double and one single. Owner's stateroom has private bath and communicating baths for guests. Large wardrobe, dresser, and finest beds in all staterooms. Luxurious furnishings throughout.

Crew's quarters forward, well ventilated and comfortable. The auxiliaries consist of separate electric light plant, hot water heating system, half-ton ice plant, and fresh water pumping system.

Most economical and commodious yacht afloat. For further particulars write Yachtmen's Service Agency.



Combination of Speed and Comfort

FOR SALE—62'x12'6"x3' Twin-Screw Great Lakes Cruiser. Two 6-cylinder Speedway engines. Speed, 20 miles. Accommodations: Two staterooms and bath in owner's aft quarters. Large convertible dining saloon and galley forward. Separate crew's quarters in bow. One man control from enclosed bridge deck. Large cockpit aft. Fast and heavily constructed boat. Completely renovated last season. Handsomely finished and luxuriously furnished throughout.

A boat that any yachtsman would be proud to own. For further particulars write Yachtmen's Service Agency.

BOATS FOR SALE AND CHARTER

POWERED CRUISERS

25'6" x 6' x 22"	Open Sea Skiff	Pierce Arrow
26' x 6'6" x 2'	Cabin Sea Skiff	90 H. P. Scripps
26' x 9'	Open Sea Skiff	290 H. P. Sterling
31' x 9' x 2'6"	Cabin Sea Skiff	30 H. P. Erd
31' x 8'8" x 3'	Bridge Deck	30 H. P. Keystone
32' x 8'6" x 2'9"	Elco Cruisette	45 H. P. W. S. M.
33' x 10' x 3'	Raised Deck	40 H. P. Lathrop
33' x 9'4" x 3'	Raised Deck	50 H. P. Fay & Bowen
36' x 9' x 3'	Hand V. Exp. B. D.	150 H. P. Van Blerck
36' x 9'8" x 3'	Enclosed B. D. (2)	20 H. P. Engines
36' x 10' x 3'3"	Bridge Deck	24 H. P. Palmer
36' x 11' x 3'	Matthews Cruiser	70 H. P. Kermath
40' x 12' x 3'	Raised Deck	30 H. P. Vulcan
40' x 10' x 4'	Great Lakes B. D.	40 H. P. Lathrop
41'3" x 9'6" x 3'	Elco B. D.	42 H. P. Elco
42' x 11' x 3'	Bridge Deck	30 H. P. Lion
42'7" x 11'3" x 4'	Bridge Deck	40 H. P. Regal
42'4" x 10'7" x 3'	Elco B. D.	37 H. P. Standard
50' x 8'6" x 3'2"	Express B. D.	185 H. P. Van Blerck
51' x 10'3" x 4'3"	Bridge Deck	75 H. P. Speedway
54' x 11' x 3'4"	Express Cruiser (2)	225 H. P. Sterlings
55' x 13'7" x 3'3"	Enclosed B. D.	54 H. P. Standard
55' x 11' x 2'9"	Hand V. Exp. (2)	150 H. P. Van Blercks
56' x 12' x 3'6"	Enclosed B. D.	125 H. P. Van Blerck
75' x 14' x 3'6"	Bridge Deck (2)	54 H. P. Standards
60' x 14' x 3'6"	Bridge Deck (2)	65 H. P. Standards
40' x 10' x 3'	Raised Deck (Hull)	No Engine
45'4" x 10'6" x 3'6"	Bridge Deck	30 H. P. Doman

AUXILIARIES

29' x 9' x 18"	Aux. Sloop	6 H. P. Liberty
32' x 10' x 4'6"	Aux. Sloop	10 H. P. Palmer
32' x 9'9" x 1'10"	Aux. Schooner	30 H. P. Scripps
35' x 12'6" x 3'8"	Aux. Sloop	25 H. P. Knight
36'3" x 10' x 5'9"	Alden Schooner	6 H. P. Redwing
37' x 10' x 2'9"	Lawley C. B. Sloop	No engine
37' x 10' x 4'	Aux. Sloop	20 H. P. Barbour
38'3" x 14'3" x 4'4"	Aux. Yawl	30 H. P. Harris
38'6" x 13' x 3½'	Aux. Sloop	16 H. P. Standard
40' x 12'6" x 4'	Aux. Marconi Yawl	15 H. P. Scripps
40' x 10' x 3'	Bugeye Schooner	7 H. P. Regal
40'10" x 14' x 5'6"	Aux. Schooner	12 H. P. Lathrop
43' x 12' x 5'9"	Aux. Yawl	25 H. P. Sterling
50' x 16' x 3'6"	Aux. Ketch	40 H. P. W. S. M.
54' x 15' x 8'9"	Aux. Schooner	20 H. P. Van Blerck
56'6" x 15'2" x 4'	Aux. Yawl	18 H. P. 20th Century
58' x 15' x 4'10"	Aux. Ketch	40 H. P. Holmes
77' x 17'9" x 6'	Aux. Schooner	54 H. P. Standard

SPEED BOATS

25' x 5' x 1'8"	Hand V-bottom	30 H. P. Sterling
25' x 6' x	Two Cockpit	200 H. P. Hispano
25' x 5' x 15"	Round Bilge	No engine
26' x 7'	Bear Cat	125 H. P. Hall Scott
27' x 5'3" x 22"	Fay & Bowen	40 H. P. Fay & Bowen
28' x 6'8" x 2'	Hacker	100 H. P. Scripps

LIST YOUR BOAT WITH US FOR EARLY SPRING SALE

Advertising Index will be found on page 186

THE MOTOR BOATING MARKET PLACE

The rate for "For Sale" and "Want" advertisements is 8 cents per word, minimum $2.00. If an illustration is used, the charge is as follows, which includes the making of the cut:

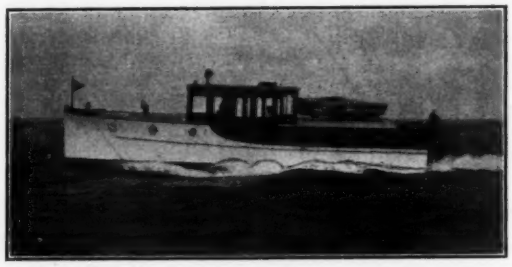
Cut one inch deep, two inches wide	$ 9
Cut 1½ inches deep, three inches wide	$12
Cut 2¼ inches deep, four inches wide	$20
Cut 2¾ inches deep, six inches wide	$25

Opportunities for the Motor Boatman

Before you buy or before you sell examine the exceptional buying and selling opportunities under this heading. They comprise the best offers of the month. Please mention MoToR BoatinG.

MoToR BoatinG, 119 West 40th St., New York

Classified advertisements set entirely in small light face type. No extra charge for capitals. Bold face type used at display rate, $13 per inch, single column. New advertisements can be accepted up to twelfth of month for following issues.



FOR SALE—Used Rochester 40-foot enclosed bridge cruiser with most complete equipment and furnishings possible. Powered with 6 cyl. medium duty Model E Scripps motor; speed, 12-13 miles per hour. Condition, excellent, and a bargain at $7,500.00. Can be inspected at our yard. Rochester Boat Works, Inc., Rochester, New York.

No. 1202

FOR SALE

One of the famous Friendship auxiliary sloops recently renovated inside and but at a cost of over $2500, 37x29x11'6"x5'6". New sails, spars, rigging, cushions, toilet, sail covers, etc., in 1924-1925. Hull practically rebuilt and no expense spared to put everything in best possible condition. Has proved to be a very able boat under severe conditions. Speed under power 6 miles. Completely equipped. For sale only because owner's plans have changed. Can be inspected at New York City. FORD & PAYNE, 41 East 42nd St., New York City.

CRUISER HOME—Converted Cat Boat, 31x12x3, has Kermath motor, clothes locker, toilet room, galley, one double spring and one single berth in cabin, two hammocks on deck, complete with awnings, dink and equipment, $1200. F. HARVEY, 521 W. 151st St., New York City.

OUTBOARD MOTOR—Caille; 2 cylinder. Latest model. Bosch Magneto, 2 forward speeds, 2 reverse, and neutral. Brand new—used less than one hour. Perfect condition. Reason for selling—have no need for it. Cash price $97.00 FOB Connecticut. Act quickly. The Blackiston Organizations, Canton, O.

CLASSY Mahogany Raised Deck Cruiser, 35x8½, 25 horsepower, Buffalo, electric equipped. Sacrifice $1,500.00. KENNEDY, 57 West 58th.

FOR SALE OR TRADE—24'6"x8' beam, glass cabin cruiser. Used about two months. Palmer 16 H. P. motor. Will sell or trade for a larger hull. H. NELSON, 55 Cumberland St., Jamaica, L. I.

25-35 FOOT deep sea cruiser wanted, speed about 10 miles, 6 cylinder engine, second hand or new, for use on Chesapeake bay. Delivery about April at Chesapeake City. Box 175, MOTOR BOATING.

FOR SALE—60 foot flush deck power yacht, 3 staterooms and bath, deck house, 2 Standard engines, Delco plant, launch and dinghy. Owner building larger boat. CHAS. V. BOSSERT, 1335 Grand St., Brooklyn, N. Y. Tel. Stagg 2600.

SIX CYLINDER hundred horse PIERCE BUDD Racing engine, run less than hundred hours. Six hundred dollars. BROOKS BOAT CO., INC., Saginaw West Side, Michigan.

WANTED—18-25 H. P. Pierce-Bud, 3 cyl., 2 cycle racing motor. A. H. LAUSON, 215 North Ave., Milwaukee, Wis.

FOR SALE—Scripps E-6, 65-100 H. P., 4½"x6", 6 cyl., complete equipment, including electric starter, generator, magneto, double ignition. Little used, completely overhauled, $950.00.
STANDARD—2 cyl., 6"x8", make and break ignition reverse gear, $350.00.
MURRAY & TREGURTHA 2 cyl., 10-12 H. P., $125.00. Navy motor sailor hulls, 33'x3', $500. 40'x12', $625. FRANK GRIMES, 140th St. and Hudson River, New York City.

FOR SALE—Kahlenberg engine, 14 H.P. Absolutely new. Perfect condition. Price satisfactory. E. T. Darr, Gladstone, New Jersey.

FOR SALE—24' cabin cruiser, in excellent condition. Equipped with comfortable bunks for two, toilet, water tank, etc. Brand new 16 H.P., 4 cylinder Roberts motor with Putnam reversing gear. Price, $800. For further particulars address F. L. English, 154 Delaware Ave., Carney's Point, New Jersey.

FOR SALE—150 horse power, six-cylinder Van Blerk—medium duty—factory rebuilt—and guaranteed—not even uncrated. Price for quick cash sale, $700. Also 16 horse power Mianus, jump spark—Joes clutch, perfect running order, $70. D. L. Whittemore, Falmouth, Mass.

FOR SALE—20'x5½'x18" open motor boat, 4 years old. 2 cycle, 2 cylinder, 8 H.P. Caile unit power plant. Speed 8 miles. Auto control. Reason for selling, have purchased cruiser. Photo on request. Price, $375 net. H. A. Holmes, 610 Liberty St., Schenectady, N. Y.

FOR SALE—36'x9'6"x3' trunk cabin cruiser. Completely equipped, ready to sail. Two-cylinder, four-cycle Palmer motor. Will sell at great sacrifice, account sickness. Need the money. Boat and motor in A-1 condition. T. M. Jones, Box 688, Baltimore, Md.

FOR SALE—Double cockpit, all mahogany Runabout, 26'x6', copper fastened throughout. New June, 1925. Scripps F6 100 h.p. engine. New September, 1925. Only run 20 hours. Fully equipped, many extras. Boat and engine in perfect condition. Price, $2,600.00. S. J. Cunningham, No. 125 Riverside Drive, New York City.

FOR SALE—Bridge deck cruiser, suitable for Florida use, 32"x9"x2". Built 1923. New motor, self-starter, electric light, running water, two toilets, galley, ice-box, clothes closets. Fully found. Price, $2,800.00. Address Box 169, MoToR BoatinG.

FOR SALE—31x9 Trunk Cabin Cruiser, Lathrop powered, fully equipped. Must sell quickly—owner going abroad. J. Heidt, 30 Thorn St., Rahway, N. J.

FOR SALE—Single cylinder, two cycle, Red Wing motor, six horse, fine condition; fifty dollars. FRANK BREWER, Diamond Bluff, Wis.

Sterling, Model "B2", 30 to 50 H.P. German Bosch Magneto; reground; completely re-manufactured; new pistons; new rings; new clutch gears; 26x28 propeller, $500.00. Used Valve-in-Head 25 H.P. new electric starter and generator; re-manufactured; guaranteed, $350.00. Used Model "Z" re-manufactured new guarantee, $300.00.

GRAY MARINE MOTOR COMPANY
Detroit, Mich.

FOR SALE

Sterling four-cylinder, four-cycle 28-35 horse power, in excellent condition, recently overhauled and rebuilt, 600 R.P.M., 4⅝x5½, weight about 800 pounds, Bosch dual battery and magneto ignition, suitable for cruiser or open boat. Owner installing larger motor. Price, $450. Apply Box 166, care MoToR BoatinG, 119 West 40th St., New York.

Four-cyl., four-cycle, with gears: 9 H.P. Universal, $165; 1924 Kermath, with starter-generator, $415; 40 H.P. Doman, $285; 40 H.P. Miller, $425; 50 H.P. Sterling, $450; 24 H.P. Regal, $425; Peerless, 4x6, $235, and others; also 40 H.P. Pierce-Bud two-cycle, $375. Miscellaneous: 6 H.P. Dunn, three-cyl., four-cycle, $45; 8 H.P. Frisbie, $135, one-cyl.; also large list of two-cycle and aviation engines. Send for list and state your power needs. Badger Motor Company, Milwaukee, Wis.

FOR SALE—Sub-Chaser, 110x15½. Machinery and hull good condition. Located New York. Completely equipped and running, $2750. Suitable freight or passenger service. Box 170, MoToR BoatinG.

ENGINES FOR SALE
Two 200 horse power, 8 cylinder, Model M. Van Blerck engines in perfect order. For further information apply to G. Edward Osborn, P. O. Box 1696, New Haven, Conn.

BARGAIN—New Doman 4¼x6, 4 cylinder engines. Suitable for cruisers. Special prices. $188.00 and up. HUNTER BOAT CO., Dept. C, McHenry, Ill.

WANTED CRUISER—Will pay cash for best bargain. $2,500 or under. State price, location, condition, whether fully found, full particulars, photo, plan. Box 176, MoToR BoatinG.

FOR SALE—Dunphy, 21-ft. v-bottom; express; seat five; fully equipped; Scripps 40-60 H.P. 25 M.P.H. Like new. C. W. Swift, 205 East Grand, McAlester, Oklahoma.

Trimount Rotary Hand Bilge Pumps
All bronze composition. 4 sizes.
Capacities 6 to 20 gals. per min.
Require no priming.
Turn handle—create vacuum—get water at once.
TRIMOUNT ROTARY POWER CO.
294 Whiting Avenue East Dedham, Mass.
Mfrs. Hand and Power Pumps, High Vacuum Pumps, Whistle Blower Outfits

Advertising Index will be found on page 186

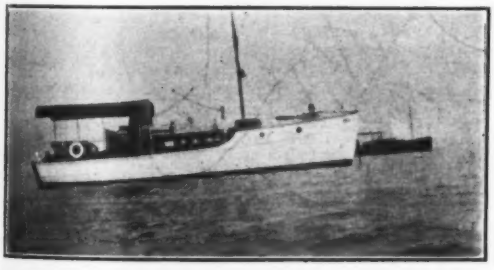
FOR SALE — Day Cruiser "Greyhound"

Ideal boat for Florida winter use

Day Cruiser Greyhound. Built by Wood & McClure. Designed by Tams & King. Mahogany hull—natural finish. Trunk cabin with toilet and galley.

Will sleep two comfortably—crew's quarters for three. L. O. A. 58 ft. 6 in. Beam 10 ft. 5 in. Depth 5 ft.
Power—Two 12 Cylinder, 450 H.P. Liberty Motors. Hull and Motors in excellent condition.
Maximum speed 33 M.P.H. Cruising speed 20 M.P.H. Price $35,000 net to owner.
Boat available for inspection at Henry B. Nevin's, Inc., City Island, New York City.

Address inquiries to Edsel Ford, Ford Motor Company, Detroit, Michigan



FOR SALE—36'x9'x3' cruiser. Two cabins sleeping 6. Toilet, galley, spring berths. Wind shield and one man control. Powered Scripps 4-cylinder motor, generator, starter. Lap streak tender and complete cruising equipment. All in excellent condition. Price, $4,500 in commission. W. B. Unholtz, Norwalk, Conn.

USED ENGINES

Liberty Smith Conversion	$1800.00
L. M. 6 Hall Scott	$1250.00
40 H.P. Peerless, Elec. Starter	$675.00
30 H.P. Standard	$575.00
20 H.P. Kermath, Elec. Starter	$425.00

Fifty Other Motors—2 to 400 H.P., $15.00 up

BELLE ISLE BOAT AND ENGINE CO.

9664 Jefferson East, Detroit, Mich. — **393 Seventh Ave., New York, N. Y.**

Hacker Designed Dolphin—22½'—Complete, $1300.00

Sportabout—18'—Complete, $800.00

Power Sea Dory—20'—Complete, $600.00

16' Outboard Motor Hydroplane—$250.00

Row Boats, $3.50 per ft. (in Lots Special Prices)

Dory Yacht Tenders—10'—12'—$45.00

16' Power Dory Tender, $250.00, with Motor

Royster Standardized Boat Works

Woodbury — **New Jersey**

Scripps Powered Standardized Runabout

16'9"x4'10"x18". F-4 Scripps.
Hacker Design, New June, 1925.
In perfect condition, fully equipped. Speed 23 miles. Sacrificing as owner is getting larger boat. Write Charles W. Baker, 149 Madison Ave., City, or phone between 5 and 5:30—Caledonia 4400.

Advertising Index will be found on page 186

FOR SALE

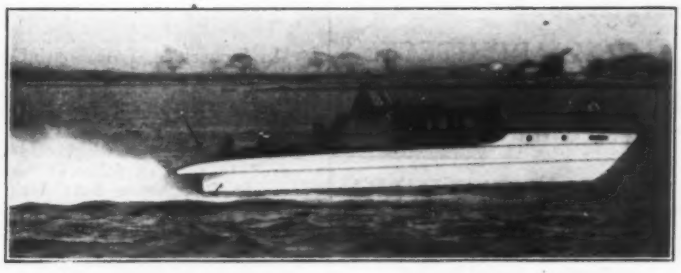
The following non-standard used Sea Sleds

WITHOUT ENGINES

All Boats Double Planked Mahogany Construction

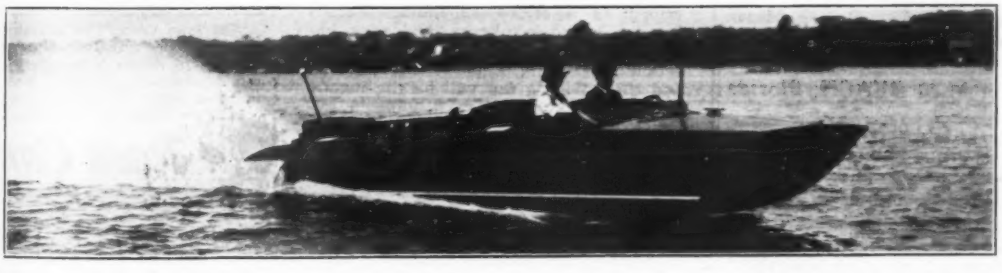
39-Foot High Speed Cruiser—Breadth, 9 Feet

Bridge Deck



Two Fiat engines installed would make this boat undoubtedly the fastest cruiser in the world. Two berths, galley and toilet. Speed on trials with original engines 46.56 statute miles. Extremely seaworthy. Has cruised to Labrador.

Price, $6500.00



Beautiful 26-foot mahogany runabout. Suitable for installation with one Hall Scott L. M. 6 engine.

Price, $1500

28-foot full sedan. Good seating capacity. Suitable for two Hall Scott L. M. 4 motors. Would give speed about 40 miles.

Write for full details

THE INTERNATIONAL MOTOR BOAT CO., LTD.

WEST MYSTIC, CONN.

Yard and Shop

(*Continued from page* 42)

engines for yachts. As is well known practically all of the recent large ocean going yachts have been powered with Diesel engine equipment, and the booklet gives illustrations and reasons why this type of equipment is the most suitable and economical for vessels of this type. Some of the reasons given for the advantages of Diesel engines are; economy in fuel consumption, saving in machinery space, reduction in crew, saving in bunker space for a given cruising radius. It further compares the cost of operating Diesel as compared to steam vessels, and then goes on to describe in detail a large number of the famous Diesel equipped yachts, designed by Cox & Stevens during recent years.

A Correction

In January MoToR BoatinG an error slipped through in connection with a caption which appeared under an illustration on page 44. Through some freak of the printers art, a caption for the houseboat Alscotia, which had been prepared to read as follows: "Alscotia, a new 98 foot house boat designed and built by the Mathis Company of Camden, N. J., and powered with two Winton gasoline engines of 250 h.p." was confused with an entirely different caption for another boat, and as a result the illustration was incorrectly titled.

Sludge in Engines

The latest issue of the Duplex Penn, issued by the Enterprise Oil Company of Buffalo, contains a very interesting article on the ways of guarding against sludge in engines, and the serious trouble which it causes. Sludge is described as a sticky substance that is formed in the crankcase, and soon becomes a menace to the engine. The article has been prepared by experts, and the advice given will be the means of saving many dollars of upkeep expense, and prevent the premature wearing out of engines.

A Small Marine Engine

The Hallett Manufacturing Company of Los Angeles, have developed a very unusual little gasoline marine engine which is intended particularly for use in small tenders and boats. It weighs only 190 pounds, and develops ten h.p. on a displacement of 44 cubic inches. The little pistons are only of 2¼ inches bore, while the stroke is 2¾ inches. The machine follows most modern practice in all particulars, and will most certainly prove to be a desirable addition to the marine industry. It is the plan of the builders to distribute these engines to boat builders directly, and undoubtedly its many desirable feature will make it a popular machine for marine use.

A Brief History

A little booklet issued by the Consolidated Shipbuilding Corporation is a brief and interesting account of the activities of this mammoth organization. It describes the various departments in an interesting way, giving details of the Designing Department, the Engineering Service Department, the Overhauling and Repair Departments, the Brokerage Service, and then some details of the construction facilities of this yard, which can undertake boats of any desired size.

Advertising Index will be found on page 186

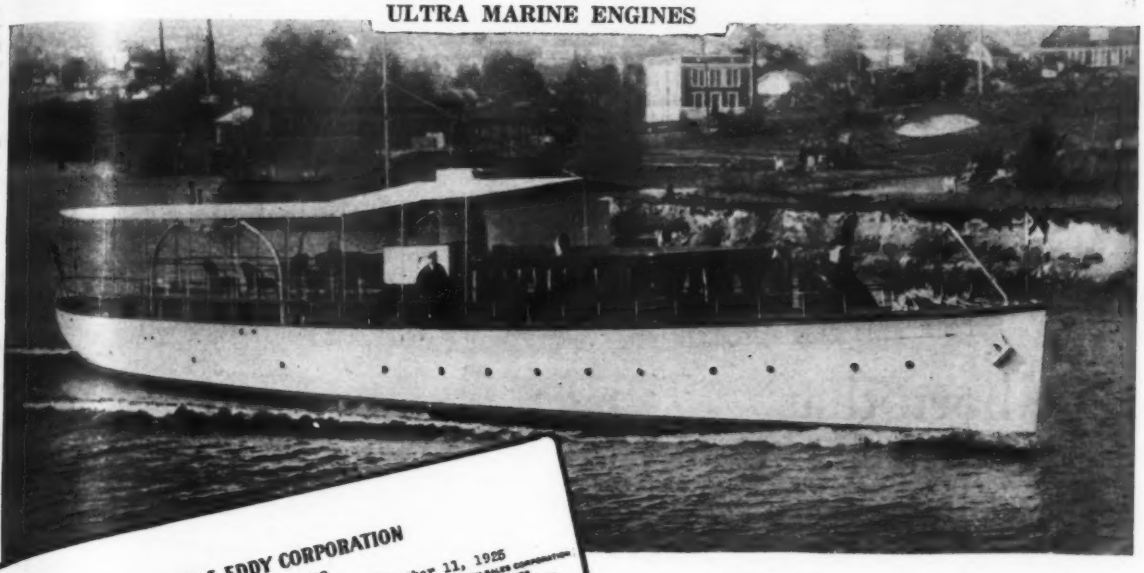
Junior Gold Cup Scripps

A recent engine is the new Junior Gold Cup model Scripps, which was shown for the first time at the New York Motor Boat Show. This engine is a modification of the well known F-6 Scripps engine, the principal changes being in the dual carburetion and manifolds, special high speed heads, and racing camshaft. Without adding to the weight of the F-6, the power output of this engine is from 15 to 18 h.p. greater, depending on the speed. This engine has been adopted as standard equipment for the 1926 Hacher Dolphins, and in fact has been used in a large number of boats already shipped to Florida. The Indian Lake Boat Company, builders of the Dart runabouts have also adopted this machine for their equipment. The twenty new Biscayne Babies, which are to race at Miami, as well as the fifteen Tampa Baybies, built by Hacker for the Davis Properties of Tampa, will also use this engine. This engine has been particularly developed for the Junior Gold Cup class, and has as a displacement of 335 cubic inches.

(*Continued on page* 180)

HALL-SCOTT

ULTRA MARINE ENGINES



Winifred II, powered with a pair of right hand HSR-6 cylinder 90-100 H.P. engines with 2.8 to 1 (3 to 1) reduction gears turning right hand 34x30 propellers 678 R.P.M.

SKINNER & EDDY CORPORATION
WHITE BUILDING
SEATTLE, U.S.A.

November 11, 1925

LUMBER DEPARTMENT

Hall-Scott Motor Car Co.,
Berkeley,
California

Gentlemen:-

Pertaining to results obtained from your two right hand geared down hundred HP engines installed in my cruiser WINIFRED II, I can say that I am most satisfactorily pleased in every respect.

As you know, the WINIFRED II is a 98-foot Rawley built cruiser of the sea going type, originally being equipped with two 90 HP heavy duty gas engines, which were able to drive her at a maximum speed of 9 knots per hour.

In selecting your smaller but slightly more powerful equipment to replace the larger ones I anticipated 10 knots, but after seeing their size did not believe this possible. Their installation made the engine room a livable place, allowing just about half again the space for electrical equipment, benches, etc., as was possible with the larger engines.

You can imagine my surprise after checking the WINIFRED II on a time course to actually make 12.6 knots per hour. Besides this our consumption of gas was exceedingly small, this being carefully checked on our last ninety mile run, which we made in exactly nine hours, cruising at 1400 revolutions of the engine, and burned exactly fifty gallons of gasoline. As to our oil consumption; after 48 hours running we had not added a pint to either engine.

The handling of the boat is wonderful. The engines both being right hand does not seem to be of any great deterrent in this respect.

Altogether with the durability of these engines, their economy, smoothness of operation and most efficient results obtained from your wonderfully designed noiseless reduction gear, I can see nothing but a landslide as to sales. Any customer desiring efficient power for a tug to an ocean going 100 ft. yacht should by all means select this type equipment.

Yours very truly,

HSM-4 50-70 H.P.
1200-1800 R.P.M. 1290 lbs.

HSM-6 75-100 H.P.
1200-1800 R.P.M. 1590 lbs.

HSR-4 60-70 H.P.
600 or 900 R.P.M. 1750 lbs.

HSR-6 90-100 H.P.
600 or 900 R.P.M. 2200 lbs.

LM-4 125 H.P.
1700 R.P.M. 1200 lbs.

LM-6 200 H.P.
1700 R.P.M. 1500 lbs.

HALL SCOTT MOTOR CAR CO.
461 Eighth Avenue at 33rd Street, New York City
Factory, Berkeley, Calif.

Across America by Motor Boat

(*Continued from page 46*)

operation. If we could lift the boat out at that point, we could set it down on a railroad push car, haul it to the end of the power house tail race, and manhandle it up the bank into the Drainage Canal. Around the power house, the lock, and the whole portion of the canal where construction work of all kinds was going on, there were derricks, cranes, and machinery to lift anything from a bag of meal to a box car—but not a single piece of this machinery was in a location where we could use it. It was a case of using man power, or quitting right there. We were still on our way to Hoboken, so I went ashore, and recruited twenty men to help us get the boat over the lock.

After getting motors, camping outfit, and all our gear deposited on the bank of the Drainage Canal above the lock, we got a rope under the stern of the boat and by sheer brute strength hauled the craft up onto the railroad trestle. We then got the boat on the railroad push car, trucked it through the power house, manhandled it out the door on the other side, up the steep bank, and to the edge of the canal above. There was a fifteen foot perpendicular wall on the edge of the canal above the power house, but that was a mere detail because there was a crane there. We merely slung the boat, picked it up with the crane, and swung it down into the canal. In another hour we were under way again.

After all the filth we had come through in the Illinois River and in the Illinois and Michigan Canal, we had contemplated the Chicago Drainage Canal with horror. But, strange as it may seem we did not find it by one one hundredth part as bad as the polluted waters we had previously traveled. The odor of sewage is almost imperceptible. The water appears to be quite clean, and there is scarcely any indication of the indescribable pollution we'd experienced further down the state. The reason for this condition is quite apparent. In the drainage canal the sewage has no chance to become stagnant. The canal is 226 feet wide, 22 feet deep, and flowing at the rate of about three to four miles per hour. The sewage is thus so diluted with an abundant flow of pure Lake Michigan water that the pollution is virtually lost. It is down the state further where the current decreases, where the sewage becomes stale and stagnant that the real pollution begins. However, we were pleasantly surprised to have our preconceived ideas of the Drainage Canal changed.

Although it was nearly four o'clock in the afternoon before we got under way from Lockport, and the heavy current in the canal retarded our speed, we entered the outskirts of the Chicago industrial district about sundown. We were anxious to get into the city, so once more we violated all our solemn vows against night traveling. When darkness closed down around us, we lighted our running lights and pushed on. Presently we were scooting under bridges too numerous to mention, dodging tugs and barges, and sliding past great industrial plants, grain elevators, and all the assembly of dingy structures, smells, dirt, grime and noise, that it takes to make up the least attractive section of the nation's second largest city. This picture was complete even to an occasional cinder or pinch of dirt in our eyes long before we passed out of the Drainage Canal into the Chicago River. Our night run through the Chicago River from the point where we entered it beside the Bridewell City Prison was another nightmare of nocturnal navigation. For six miles we forged ahead against the current with millions of lights dazzling our eyes, both motors roaring—shooting blue fire out the exhaust ports, and the river itself as dark as a cave in the banks of the Styx. The river was full of every manner of driftwood and debris, and with bridges every few hundred yards where only Stygian blackness between the red lights of the bridge piers indicated the open water spaces for which we should steer. All the Chicago bridges were high enough to let Transcontinental under, although many a time we bore down upon some dimly silhouetted mass of steel without being real sure whether we were going under or not. Under every bridge; street cars, taxi-cabs, and a hub-bub and jam of motor traffic, shook clouds of dirt down upon us, to keep us wheezing and rubbing our eyes. It was with somewhat of a feeling of relief that we went under the Wabash Avenue Bridge, and came in sight of the handsome structure that spans the river at Michigan Avenue in the full glare of the floodlights illuminating the Wrigley Building and the massive tower of the Chicago Tribune. The municipal landing at Michigan Avenue beside the Wrigley Building was where we had planned to tie up. This spot was as light as day. We were delighted to find a group of newspaper reporters,

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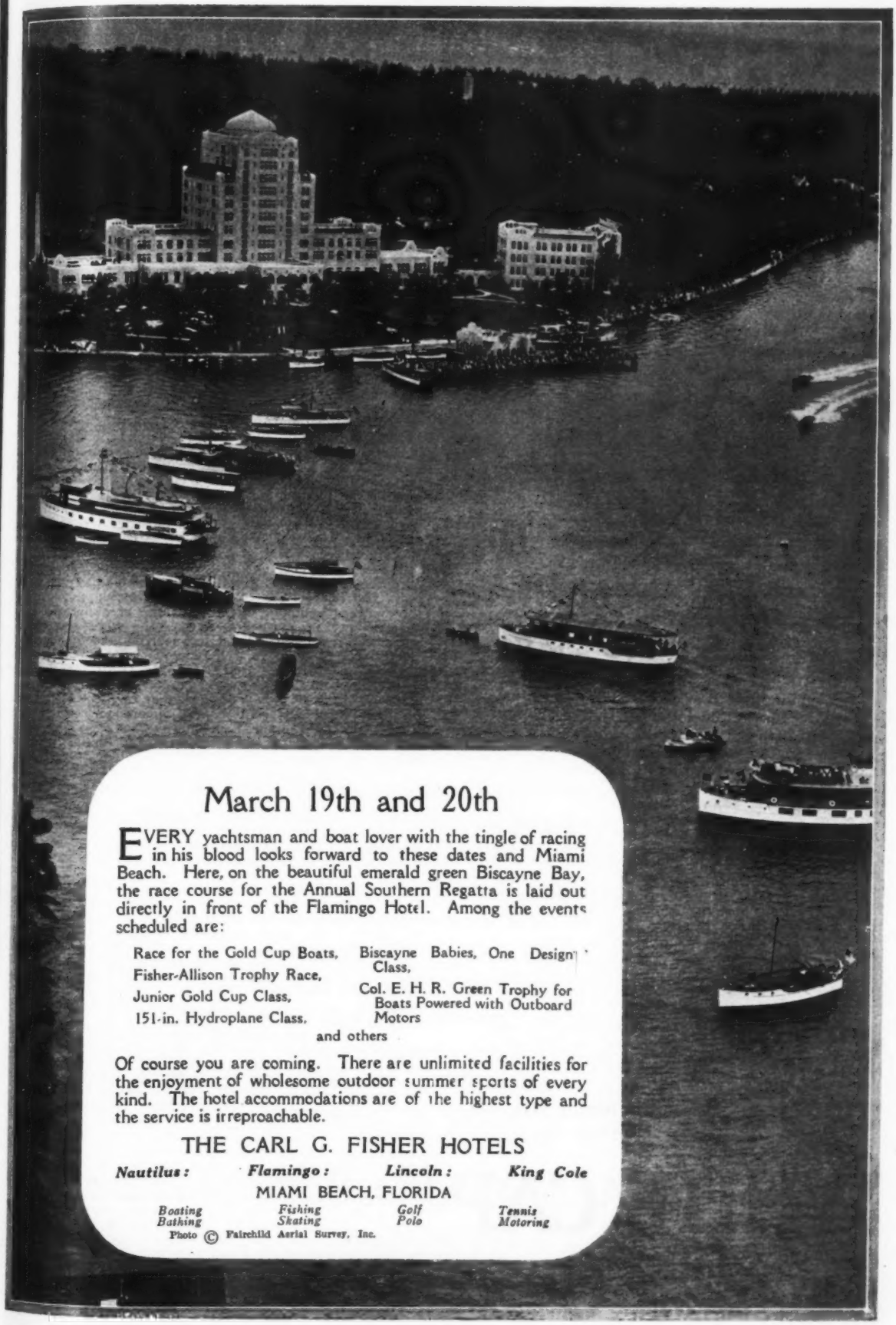

Across America by Motor Boat

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friends, and plain curiosity seekers, there to meet us. Among the crowd there was also a representative from the Evinrude Motor Company of Milwaukee, whom the factory had dispatched to Chicago to see that anything the factory might do for us was done. The flashlights boomed, and by the time we got through with the handshaking and the interviewing, it was midnight before we got to a hotel. I got a bath, got into bed and asleep, only to be routed out by the jangling of the telephone, and the voice of the hotel operator saying—"Milwaukee is calling you." It was H. Biersach, General Manager of the Evinrude Company on the wire—wanting to know what he might do to help us along, and requesting me to hurry along to Milwaukee. He was holding up a meeting of the company's board of directors until I could get in to give them every possible suggestion as to how a better outboard motor might be built.

Although we felt somewhat hollow-eyed and sleepy the next day, and as if we'd enjoy staying in Chicago for a few days, time was getting to be an important factor if we were to put the boat into New York ahead of winter weather and the usual fall storms on the Great Lakes. So, at nine o'clock in the morning instead of remaining in bed where we'd have preferred being, we were off through the Chicago River heading for the lighthouse at the end of the breakwater, and the broad expanse of Lake Michigan beyond.

Our introduction to Lake Michigan was anything but cordial and friendly. We rounded the end of the breakwater to go slithering up the side of a green mountain of water, and over the top just as the peak curled into a rooster's tail of white spray. Most of the spray came down on top of us. We made a sickening descent down the other side of the wave. Then the boat buried her nose in the trough at the bottom, and we took a geyser of water over the forward deck as it washed back, struck the combing around the cockpit, and shot skyward. The first wave, of course, was followed by another one just like it, and then another, and another, and another. By this time we'd gone into slicker coats and sou'westers, and were heading up the lake with the weather pounding us at an angle of about thirty five degrees on our starboard bow. We were shipping far more water than was good for us from the standpoint of safety. Every time we went down a wave the bow of the boat seemed to head pretty well for Davy Jones' Locker before it would begin to rise again. After having tried the craft out in some very heavy weather in the Pacific Ocean off Los Angeles Harbor it was apparent to me that we were at least six hundred pounds overloaded. This deduction was made giving due consideration to the fact that most of my boating experience has been in salt water, where the waves do not develop the short, choppy, quickness, that characterizes the surface undulations of these inland fresh water seas.

When it became necessary to throttle the motors to keep the boat from swamping, I decided that the most discreet thing to do was to go ashore and unload about a quarter of a ton of excess baggage before we put the whole outfit in the bottom of the lake. The most convenient place to do this was the Chicago Yacht Club's basin in the Lincoln Park Lagoon. We therefore changed our course, and wallowed along through three miles of seething water until we reached the quiet water beyond the opening of the lagoon. Meanwhile the wind seemed to have been increasing in violence. Water had been lapping over our stern before we got into the yacht basin. But, when we got there went out on the beach, and took a look at Lake Michigan, it seemed incredible that our overloaded cockleshell could have lived for a single minute in such a sea.

After pulling out about 800 pounds of miscellaneous gear that we felt could be dispensed with to better advantage on shore than in the lake, we took the boat out again for a trial run, and to observe results. By this time the lake was much rougher than when we came in, but we found that the boat rode like a different craft. Instead of wallowing down into the waves like a pig going under a fence, she rose on top of them like a cork. But, she pounded so badly, and the lake was running such a furious sea that it seemed utterly foolish for us to attempt travelling until more favorable weather. Accordingly, we spent the rest of the day getting our surplus equipment boxed and shipped. Getting turned back by the weather, however, was not entirely without its compensations. That evening I got a home cooked dinner, and a real night's rest at the home of friends in Chicago—something I had contemplated during the forenoon as an impossibility only to be wished for.

Next morning we found the lake still rough enough to satisfy anybody who might have been looking for a thrill

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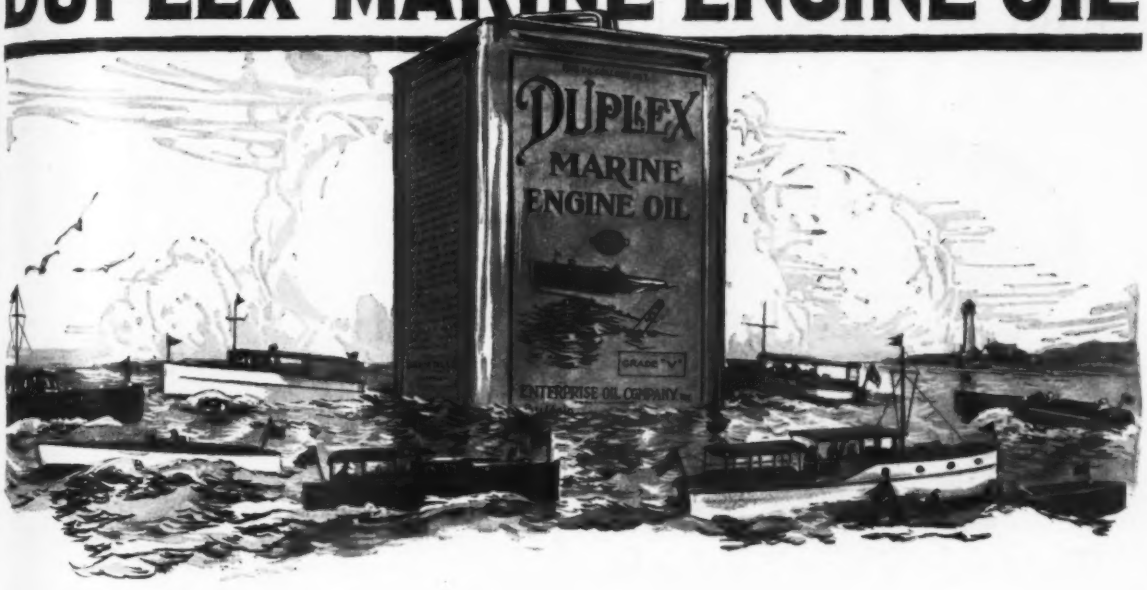
DUPLEX MARINE ENGINE OIL



MARINE DEALERS

are rapidly preparing for the greatest year motor boating has ever had. They are handling Duplex Marine Engine Oil because it keeps boat owners happy and brings a high ratio of repeat sales — the surest and soundest way to make exceptional profits. The Duplex proposition will interest you—write for it today.

DUPLEX Marine Engine Oil demonstrated its specific value for marine engine use when Commodore Greening used it in Rainbow IV to set up a new 24-hour world's record of 1,218 miles, better than 50 miles per hour, on Muskoka Lakes last October.

Instead of being an adapted automobile oil, Duplex Marine Engine Oil has been created for the exacting requirements of marine service. It has been developed in collaboration with the leading marine engineers who recognized the need for an oil that would maintain steadfast lubrication despite the sustained speeds and high heats that are characteristic of marine engine operation.

Don't start the spring season until you have the full facts about Duplex Marine Engine Oil—write for them today and tell us the name and maker of your boat, as well as the make and model of the engine, so that we can give you the correct recommendations for your craft.

KASSON Waterproof Grease has been serving the marine industry for forty years on crank pins, engine water pumps, bilge pumps, stuffing boxes, stern bearings and submerged gears. It is the only grease that stops the leaky water pump habit and keeps it stopped!

In fact, Kasson is the only true waterproof grease ever made. It is completely non-absorptive and non-emulsifying and should be used wherever working parts come in contact with water because the water stream will not wash Kasson away from the bearing surfaces.

To see how quickly Kasson will stop your leaky water pump, just send us your name and address (including the name and address of your marine supply dealer) and we will send you a trial size can of Kasson without charge. Once use Kasson and you will never leave dock without it!

ENTERPRISE OIL COMPANY, Inc.

Established 1884

MARINE DEPARTMENT, 162 CHANDLER STREET, BUFFALO, N. Y.

Across America by Motor Boat

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in a small boat, but not nearly so angry as it had been the previous afternoon. If it got no worse, there was every indication that we'd be able to knock a fair portion of the run from Chicago to Milwaukee. So, we shoved off, getting under way at 8:30. We took a lunch aboard, and for the rest of the day watched the shores of Illinois and Wisconsin slip along past our port side. After we'd been under way for about two hours, the lake began to calm down to a gentle rolling sea free from white caps. Naturally, this helped our speed. We lunched in the boat as Waukegan slid past about three miles abeam of us. As the lake continued to become more placid during the afternoon we increased our distance from the shore. This took us safely outside the several bad reefs that are charted along this portion of the Illinois and Wisconsin shores, and also reduced the distances which were materially increased if we were compelled to follow the long sweeping curves of the shore line. At four o'clock in the afternoon Kenosha, Wisconsin, was visible in the dim distance abeam of us. Then, we changed our course, and began heading for Racine. At five thirty we put-putted into the harbor, tied up for the night, and flagged a taxi to take us to a hotel.

A telephone call to Milwaukee put us in touch with the officials of the Evinrude Company to inform them we'd be in the Milwaukee River at noon the following day. It also resulted in a pleasant little surprise for us. Leaving Racine at nine o'clock next morning we found the lake fairly calm. We rounded wind point, the long point above Racine keeping about three miles out at sea. But that time we could see the smoke and dim outline of Milwaukee in the distance. About ten miles south of Milwaukee we espied a tug that seemed to be prowling around looking for something. That something proved to be us. Little jets of white vapor began shooting up from the tug's smokestack, and above the roar of our motors we could hear a faint—"toot-toot-toot-toot" of her whistle. When the tug came nearer we could see that her forward deck was festooned with men, and in the bow waving like a human semaphore the field glasses picked out the countenance and spectacles of Fred O'Neil, vice-president of the Evinrude Motor Company, Ed Wehe, Manager of the Service Department, and a few other familiar faces. After coming alongside of us and exchanging greetings, the tug led the way into the Milwaukee River with Transcontinental trailing her astern like a Mother Carey's Chicken following a ship. Somebody around the Evinrude establishment had done a good job of press agenting. The newspapers had been kept full of the story of Transcontinental for several days. That morning the papers carried pictures of the boat, and a news story to the effect that the craft was due to arrive in the Milwaukee River at noon. Moreover, it was Saturday. Hence, when we came up the river trailing the tug, and the tug captain blowing an extra head of steam out of his boilers through the whistle, most of Milwaukee, it seemed, hurried to the water front. The banks of the river were jammed with people. There was a grand rush for standing room on the approaches of the various bridges—all of which had to be opened to let the tug pass. Every window in every building facing the Milwaukee River became a frame for a living picture of humanity peering out to get a look at the first boat attempting to cross North America, and now more than 3,500 miles on its way.

After doing our little grand stand stunt in the Milwaukee River, we proceeded to the Milwaukee Yacht Club, where the club was virtually turned over to us, and we were met by the usual crowd of newspaper men and a delegation from the Evinrude Motor Company. The yacht club on a Saturday afternoon would have been a lovely place to loaf around—doing nothing. But there was important work to be done. We lunched at the club, and by that time a truck was waiting outside to move Transcontinental, and our entire outfit to the Evinrude plant. While the boat and motors seemed to be in excellent shape, we still had 2,000 miles to go. The motors had been run from Astoria, Oregon, to Milwaukee. They had run at full throttle from 8 to 16 hours per day—day after day, and week after week—without ever having been pulled down for an overhauling, and without the replacement of a single part except the underwater mechanism which had been consumed by the silt in the Missouri River. The Evinrude engineers desired to measure the pistons, cylinders, and other parts for wear. And, from our standpoint, with the Evinrude plant and boatworks available for any necessary repairs or alterations, we'd have overlooked a rare opportunity had we gone out of Milwaukee without having everything right.

In our little run of 80 miles from Chicago to Milwaukee,

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Across America by Motor Boat

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we'd gained some profitable experience as to the type of boat best suited to Great Lakes weather. While Transcontinental had lived up to most of our expectations both as a river and deep water craft, certain alterations were desirable. For one thing we had learned that we could get along better in the Great Lakes with one motor than we could with two. Two motors, of course, gave us greater speed, and more power to buck into headwinds or currents. But, against this advantage was the disadvantage of being compelled to throttle down in very rough water even when driving with one motor. The use of two motors also doubled gasoline consumption, and the weight of the second motor made the stern a little sluggish in rising over a heavy sea—especially when running before the weather. Although we had a full 18 inches of freeboard astern—ample for the roughest river work we'd encountered, we found that it was none too generous for the infamously choppy seas of the Great Lakes. Some sort of a spray hood over the bow of the cockpit was also desirable. The boat had not leaked a drop since first put in the water, but she had begun to look as if a coat of paint wouldn't do her any harm. So, we hauled the boat out to the Evinrude plant where the most skilled mechanics and carpenters who could be mustered into service for a Saturday afternoon and Sunday job were put to work. Never have I seen any group of men who worked more carefully. Every man of them seemed to feel that the success of their company's product in driving the first boat across America depended entirely upon him. While the carpenters were sawing out oak boards to build an 8-inch spray combing around the stern, and the after six feet of the cockpit; the mechanics in the service department dissected LEWIS and CLARK. Meanwhile an awning maker was stitching heavy canvas together to form a curved hood over the forward end of the cockpit to keep the Great Lakes from climbing aboard. The motors, however, gave us the biggest surprise. In spite of the terrific punishment they had received, a systematic micrometering of parts revealed no appreciable wear. There was not a single part to be replaced—nothing to be done but put them together again and touch them up with a new coat of paint. In selecting a stock of spare parts for the remainder of the cruise we also profited from past experience. We had no more Missouri Rivers to cruise, hence there was no necessity whatever for taking along a stock of stuff that would probably never be used for anything but ballast to be chucked overboard in case of squally weather. So, the stock of parts we took along was no more than could have been carried in one's hat. Of course, we had two motors, and never intended to use but one until we reached the Trent Waterways of Ontario. This gave us a whole new motor in reserve, and to rob parts from it if necessary.

By Tuesday morning the paint on the hull of Transcontinental was sufficiently dry to permit launching the boat again, so we trucked her to the Milwaukee Yacht Club, and into the water. A trial run into the lake, out beyond the Milwaukee Light Ship, in a sea that was far from calm revealed that we were much better fitted for deep water cruising than we had been when we entered Milwaukee. During our stay in the city that malt beverage made famous prior to Mr. Volstead's essay on enforced temperance, we got acquainted with Captain William Kincaide, commander of the United States Coast Guard Station at Milwaukee. During this time we had been considering the feasability of attempting to cross the lake to the Michigan side instead of carrying out our original plan of going up the west side of the lake to the Straits of Mackinac. This plan of crossing the lake appeared attractive because it would shorten the distance for us, and restore several days to our much belated schedule. When we discussed it with Captain Kincaide he promptly frowned upon it. "Too dangerous," was his only comment. The thing appeared so to me, and I would have been cold-footed on the subject from the start but from having observed the tremendous number of ships that ply up and down the entire length of Lake Michigan. It appeared to me that it would be impossible to cross the lake and be out of sight of a ship at any time. Moreover, most of the ships are slow freighters, with very little, if any more speed than we had. With fair weather, it seemed reasonable that we should be able to get across the lake in a daylight day and without the slightest difficulty. Of course, if we got caught in a squall somewhere out in the middle of the lake, our predicament would be anything but safe or comfortable. But, if we did get caught by unfavorable weather, it seemed certain that we could count on

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Jacksonville, Florida

MEMORIAL PARK and the St. Johns River, Jacksonville, Florida, one of the beauty spots on the road to VENETIA, Jewel of the St. Johns.

Venetia

"Jewel of the St. Johns"

JACKSONVILLE is the financial capital of Florida, the hub of transportation by land or sea, and the largest city in the state.

THE LOGICAL GROWTH OF THE ARISTOCRATIC RIVER FRONT OF JACKSONVILLE

HALF OF THE PRIDE you derive from any beautiful home is in the approach. Jacksonville boasts of no more beautiful scenic-pleasure drive than the approach to VENETIA.

From the heart of the city over the best asphalt thoroughfares, lead out under the live oak arches of Riverside past the river vistas of Avondale, under the moss draped forest patriarchs of Ortega, over Italian rialtos spanning liquid boulevards, into the heart of VENETIA.

Note on the accompanying map how VENETIA lies between the St. Johns River and Venetia Bay.

VENETIA is a 500-acre extension and development of Jacksonville's most exclusive St. Johns River front. VENETIA has all utility systems standard with the City of Jacksonville.

VENETIA has borrowed some of the charming details of old world Venice, with its bulkheaded canals, its architecture Americanized, and its street illumination modernized.

VENETIA has its own Yacht Basin, with navigable waterways to the Atlantic OCEAN and has a Country Club, with an 18-hole golf course by Donald Ross.

VENETIA holds many charms for those who seek a northern Florida home within refined environments, 36 hours out of New York and Chicago.

Consolidated Development and Engineering Corporation, Inc.

Jacksonville, Florida

Write for Illustrated Plat and Literature.

When in Jacksonville Visit Venetia's Renaissance Hall and Italian Garden

Forsyth Street at Julia, in the Heart of the City

Across America by Motor Boat

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being close enough to a ship to permit our going alongside and yelling for help.

So, after much careful thought we decided to attempt the dash across the lake at daylight the following morning—providing weather indications were favorable. We got everything ready, and then spent most of the night around the coast guard station grabbing every weather report and watching the barometer. When the first rays of daylight began to appear in the east every weather indication appeared to be in our favor. We were about ready to shove off when Captain Kincaide came down, and stood on the shore watching our preparations. He stood there stroking his chin as if in deep thought. Finally, he spoke saying: "Boys, if you're going to try it, I'm going to go with you." He handed me a telegram—an authorization from the Commandant of the Coast Guard Service at Washington for the Captain and a crew of men in a motor life boat to accompany us and see us safely across to the Michigan side of the lake. I thanked the Captain for his spirit of kindly co-operation. To this he replied: "Well, me and the boys would like to take a little trip anyway. There hasn't been much doing on the lake this summer. Besides, I'd rather go out WITH you, than to come out AFTER you. Shove off whenever you're ready, and we'll catch you with the life boat a few miles beyond the light ship."

This sudden and wholly unexpected co-operation on the part of the Coast Guard was thoroughly appreciated, for it took all element of uncertainty, and about 99 per cent of the risk out of our getting across Lake Michigan. We shoved off from Milwaukee feeling much less uneasy as to what we might encounter on the run of 98 miles of open water between there and Ludington. In a few minutes we were outside the breakwater with Transcontinental burying her nose in the choppy sea of a morning breeze. Half an hour later we cruised past the lonely Milwaukee Light Ship took our course from the compass, and headed straight out across the lake. The shores of Wisconsin were getting somewhat hazy and dim in the distance when a tiny white speck coming up astern of us loomed in the field glasses as Captain Kincaide's life boat. The life boat had scarcely half a knot more speed than we did. Consequently, the scenery consisted of sky and water before the convoy caught up with us.

By rare good luck, the favorable weather that had been forecast turned out to be even better than we'd hoped for. By the time we'd been out of Milwaukee two hours the wind died down completely. It became unbearably hot, not a breath of air stirring, and the lake flattened out like a bowl of soup. It was one of those rare days to be expected about once in an average human life time on Lake Michigan. Luck was certainly with us. We cruised much of the time within twenty feet of the convoy, often talking with Captain Kincaide and his men through a megaphone, or using the megaphone as an ear trumpet to pick up voices from the other boat against the roar of our engine. At noon we took our position, found that we were approximately in the middle of the lake, and with a mill pond surface as the prospect for the rest of the day. The barometer remained absolutely stationary.. The torrid weather we were experiencing out on the lake gave us sympathy for the heat sufferers in Milwaukee and Chicago that day. About one o'clock in the afternoon a chipping sparrow came fluttering down out of the sky, and landed on the bow of Transcontinental. After roosting there for a while, apparently recovering his breath, he hopped off, and went aboard Captain Kincaide's boat. The appearance of this small land bird called our attention to the fact that the Great Lakes are a tremendous death trap for billions of land birds and insects every year. Numerous flies, flying beetles, and butterflies were observed both in the air and on the water. They came aboard in such numbers as to become an intolerable nuisance. We put on several active fly drives, swatted flies right and left, and shooed them overboard, but only to pick up a new cargo of the pests within the next fifteen or twenty minutes. We saw butterflies, and other insects go fluttering down into the water, apparently so exhausted they could remain in the air no longer. It is very evident that these flying creatures get carried by the air currents out into the Great Lakes, dropping to their doom when they can remain a-wing no longer. While we were usually trailing our convoy, we really had no more need for it than the average man would have for a hundred hats. The weather remained the same all the way across the lake, and there was never a minute during the entire day that we were not in sight of from one to a dozen different ships. All this, of course,

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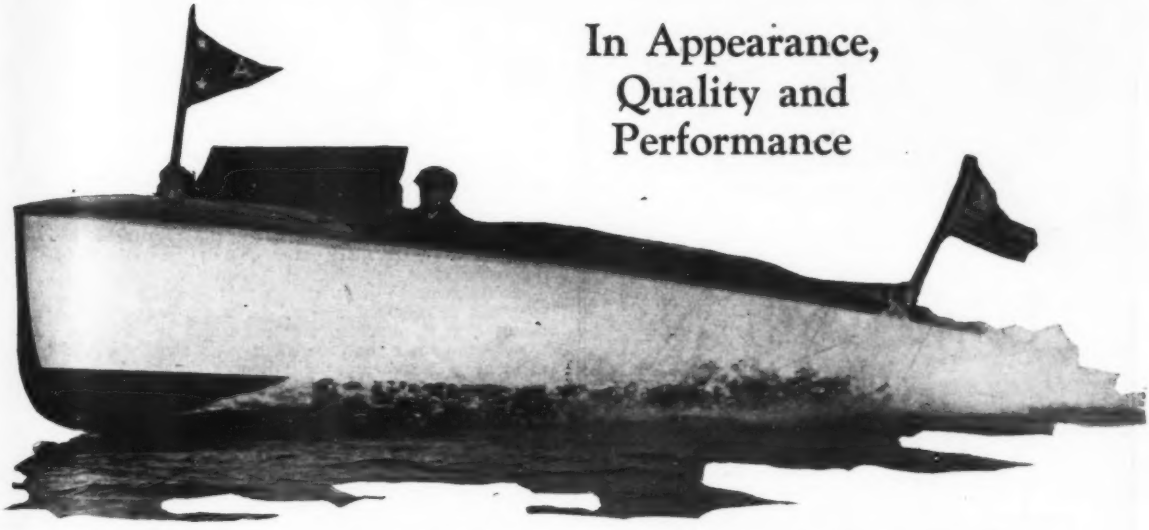
Exceptional Runabouts

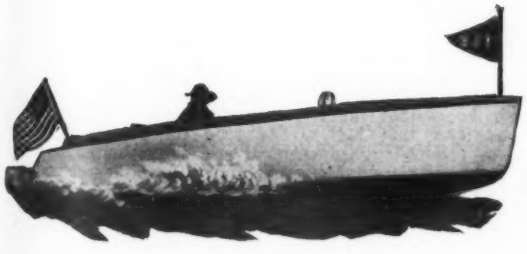
In Appearance, Quality and Performance



THE enviable success of Fay & Bowen runabouts as the first choice of boat lovers is due to the concentration of our large boat building plant to the design and construction of high grade runabouts exclusively. Constantly being improved with added refinements and tasteful appointments, Fay & Bowen runabouts today represent the finest in boat building art.

The double cockpit runabout shown above, our latest model a thirty footer, is controlled from the forward cockpit and has a passenger capacity for ten to twelve people. Powered with the Fay & Bowen, type LNS-43 marine engine, a 60 H.P. high speed unit power plant, the speed is 21 miles per hour. Hull finished in white and mahogany or all mahogany is optional.

The Fay & Bowen Junior runabout is a 24 foot all mahogany boat of smart lines and unusual seaworthiness. Speed, 17 miles per hour with our model LC-41 marine engine.



The twenty foot Fay & Bowen Runabout, although the smallest in the F & B fleet, is built to the same standard of quality and workmanship as our larger boats. This runabout is powered with our famous GOBEST marine engine, 14 H. P., giving a speed of 14 miles per hour.

Write today for descriptive literature of Fay & Bowen runabouts.

FAY & BOWEN ENGINE CO.

104 LAKE STREET GENEVA, N. Y.

EASTERN REPRESENTATIVES:

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44 Third Avenue at 10th Street
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116 Walnut Street
Marine Equipment & Supply Co.

Across America by Motor Boat

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while the fine weather lasted. We were just as well satisfied to have the convoy with us.

About the time the sun dropped big and red into the world of water around us we began to smell land. A peculiar haze also appeared in the east, indicating the presence of land. But, darkness settled down around us, and still no land was in sight. About nine o'clock in the evening a little light bobbed up on the eastern horizon, and began to blink at us. I glanced at the chart, and thought I'd identified the light as Little Sable Point—just south of Ludington. Cruising on for another half hour three more lights appeared in the east, but to save our souls we couldn't make the various lights jibe with the chart. Presently a great cluster of lights came into view indicating a town—evidently Ludington. During the entire day we had left most of the navigation problems to Captain Kincaide because we felt that with his larger binnacle and steadier boat, his reckoning was apt to be more accurate than ours. About the time the lights of the town came into view Captain Kincaide's boat suffered a breakdown. We went alongside asking if he needed a tow, but he assured us he'd be under way again in a few minutes, and suggested that we cruise on. So, we went on toward the town, but still deeply puzzled over our inability to identify the various light houses on the shore and check them with our chart. At midnight we pulled in between a couple of breakwaters. Our harbor chart of Ludington was broken out, but the whole scheme of lights and landscape ashore seemed to be askew with our charts. Several years ago I had been in Ludington, and I still had something of a mental picture of the town and its harbor. But, this place, into which we'd poked the bow of Transcontinental after sixteen hours of steady travelling, was nothing that I'd ever before set eyes upon. We pulled in between the breakwaters, and when I espied a man on shore, I shut down the motor, and called out: "What port is this—please?" "Manistee," came back the reply. "Manistee. Holy cats," I exclaimed. "No wonder we've been sixteen hours getting here." We'd cruised 120 miles that day instead of the 98 miles we expected to cover from Milwaukee to Ludington, and were just about 25 miles nearer New York than we expected to be. Presently, Captain Kincaide joined us, and I ventured to ask him if he knew what port we were in. "Sure I do," was his answer. "This is Manistee. I've been heading for it all day. When I saw the kind of weather we had on the lake today, I knew you wouldn't object to getting lured along a little farther on your route." With that the Captain burst into an uproar of laughter, and was joined by the crews of both boats. The biggest part of the joke on us was that our compass had been off about half a point all day. We'd been heading for Manistee when we though we were headed for Ludington. We were only 25 miles off on a course of 120 miles—just a mere detail for a trio of landlubbers trying to navigate the Great Lakes in an 18-foot put-put.

While we were delighted to be in Manistee that evening in preference to Ludington, the unintentional alteration of our route cost me about ten dollars for telegrams. When we left Milwaukee, the Milwaukee newspapers carried the report that we had struck out for Ludington. When we failed to show up at Ludington, a couple of reporters who'd been mastheaded on the breakwater all evening, drew the logical conclusion that we were LOST. Forthwith, the report went out on the wires that we—"were lost in Lake Michigan without food or water." It would certainly be a terrible thing to be lost in Lake Michigan without any drinking water—especially on a hot day. Nevertheless, I had to get out a handful of telegrams to let our relatives and friends know that the report was grossly exaggerated. I learned later that Mrs. Hoag read the report in a Los Angeles paper, laughed over it, and ten minutes later received my wire announcing our arrival in Manistee.

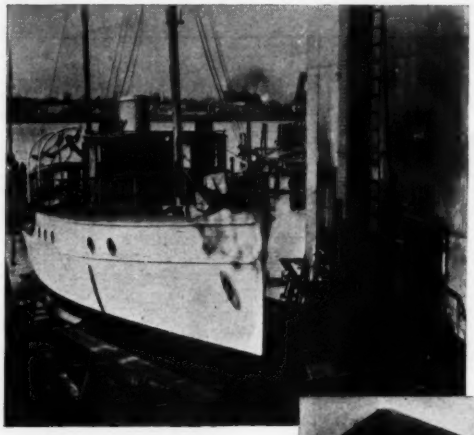
It was a good thing for us that we got across Lake Michigan on the day we did rather than to have attempted it the following day. We got a short night's rest in Manistee, and were on the job for a dash up the lake, next morning—but we didn't go anywhere that day. We came out of the hotel to find a violent gale blowing from the northwest. Captain Kincaide with his non-capsizable, non-sinkable life boat was preparing to shove off for Milwaukee. He advised us to remain in port, but time was getting to be such a precious element with us that we decided to travel if it might be possible. Due to the direction of the storm, we'd get set on the beach if we came to grief, and the nature of the shore for sixty miles or more north from Manistee is such that a small boat could be beached with little difficulty. Leaving Captain Kincaide at the Manistee Coast Guard

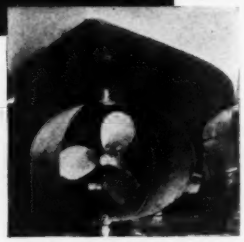
(*Continued on page* 94)

Advertising Index will be found on page 186

Every Installation of the McNab Rudder Proves It Is Better Than the Old Type Rudder

Mr. E. C. Beaumont, Owner of Discovery Isle, Writes:





Mr. E. C. Beaumont's Diesel yacht Discovery Isle in dry dock. This yacht was built at Hong Kong, China, for the owner after designs by Thomas Halliday of Vancouver, B. C. At the right is shown the installation of the McNab Rudder as made at Hong Kong.

"YOUR Rudder does all that it is claimed to do and so far I have not, when under way, damaged the Rudder from striking logs or floating debris as so many of my friends expected me to do.

"In the winding rocky approaches to my island home I often have to encounter patches of kelp; upon striking these at ten miles an hour, the steering wheel gives a sharp jerk but no injurious effect seems to be produced.

"I have found the ability to turn in the length of the boat, when going astern, of great value, and in narrow winding channels with strong tides the maneuvering abilities of the Rudder are very great. I have found it possible to wiggle my boat in and out of places where it would have been quite impossible with an ordinary rudder.

"The great turning power of the Rudder often serves me in good stead when getting away from my moorings when I am almost immediately in and across a strong current driving me ashore."

Mr. Beaumont, in his letter simply gives added evidence to the superiority, accuracy, rapidity of action and absolute reliability of the McNab Rudder.

Reverse gear and reversing of engines are unnecessary on McNab Rudder equipped boats.

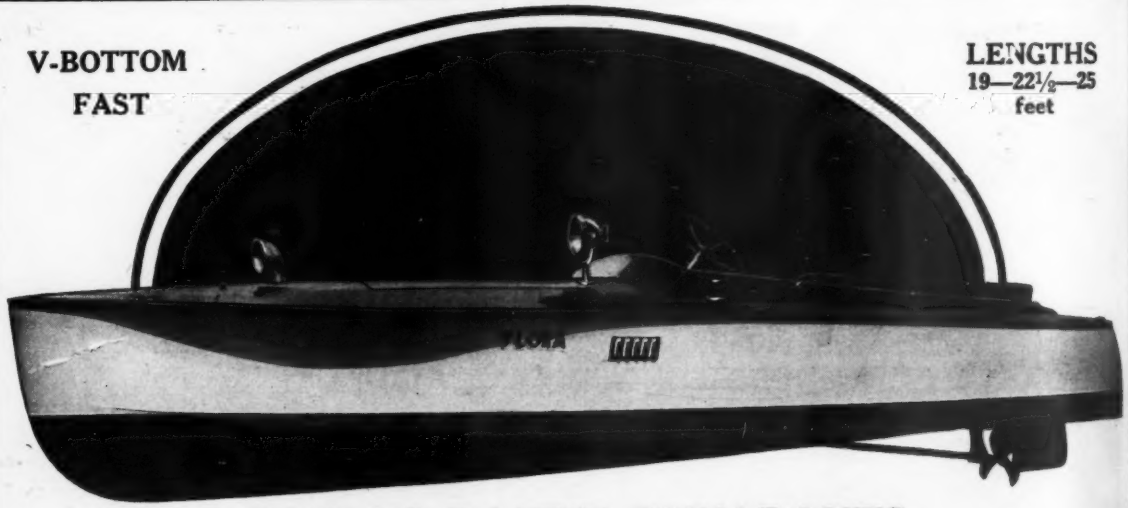
The "Discovery Isle" is installed with a *non-reversing* Atlas Imperial Diesel Engine. All maneuvers are carried out from the bridge and through the McNab Rudder.

Write today for illustrated literature. State diameter of propeller and B.H.P. of your engine. Owners of outboard motors need only give make and number of motor when writing.

McNab-Kitchen Rudder Corporation
Davis and Hawley Building, Bridgeport, Conn., U. S. A.

V-BOTTOM
FAST

LENGTHS
19—22½—25
feet



FAMOUS RACINE RUNABOUTS

In stock for immediate delivery. One design, but built in three different sizes—19, 22½, or 25 feet.

From keel to last fitting this beautifully proportioned craft is thoroughly complete—ready to start right off and give day in and day out satisfaction.

The price is most remarkable when you consider it is a genuine RacineWis built craft.

Complete specifications and blue print if you will advise us of the size interested in. Catalog furnished.

RACINE BOAT COMPANY, 1809 Holborn Street, Racine, Wis.

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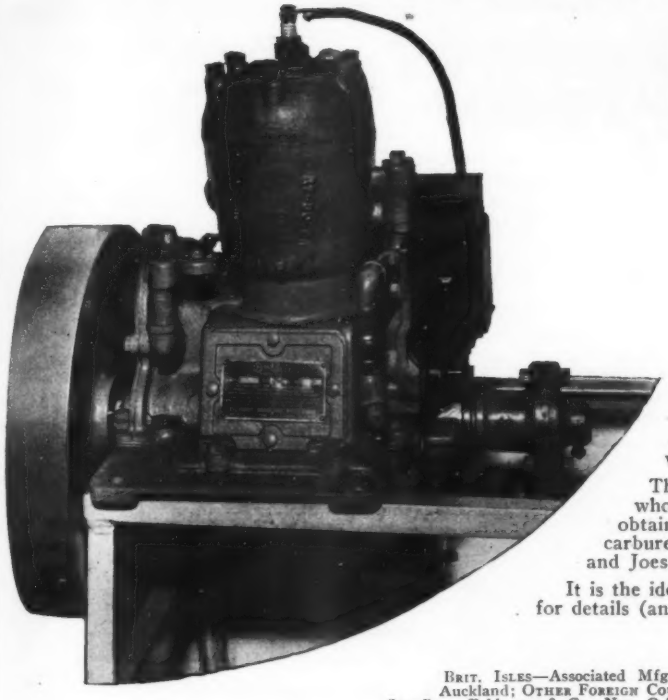

Everybody

stopped to look at the world's most flexible motor

Enthusiastic Salesmen explained to visitors the care-free pleasure, the low gasoline consumption and many other features of the wonderful little motor.

This sturdy marine engine is built in Detroit by men who know the business. Materials are the best obtainable. It has 1 cylinder; Wico Magneto; Holley carburetor; it develops 920 R.P.M., and weighs 1665 lbs., and Joes reverse gear can be supplied.

It is the ideal for small boats. Ask questions about it—write for details (and if you are a dealer we have a real proposition).

—Dealers—

BRIT. ISLES—Associated Mfgrs. Co., London, England; NEW ZEALAND—A. J. Williams, Auckland; OTHER FOREIGN COUNTRIES—Melchior, Armstrong, Dessau Co., New York, N. Y.; Stauffner, Eshleman & Co., New Orleans, La.; Sutter Bros., New York, N. Y.; W. R. Hauser, Fort Myers, Florida.

DuBRIE MARINE MOTORS

5628 McGraw Avenue
DETROIT, MICH.

The INTERNATIONAL THIRTY TWO

The First "Everybody's Motor Boat"

Raised Deck Cruiser Complete, Ready for Cruise —

—

Delivery from Stock

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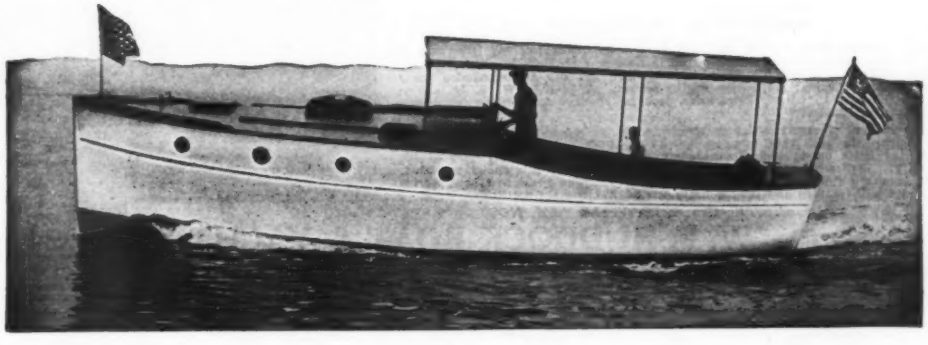
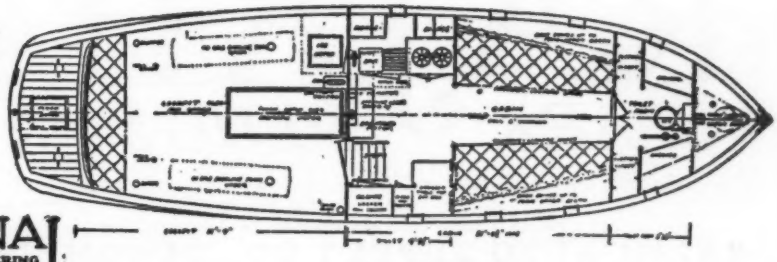


PRICES

$3950 with Kermath 29 H. P. Engine, speed 10 miles per hour.

$4350 with Kermath 35-50 H. P. Engine, speed 12 miles per hour.

The Best Boat Value—
By a Very Wide Margin



Arrangement Plan

INTERNATIONAL
SHIPBUILDING AND MARINE ENGINEERING CORPORATION
NYACK, NEW YORK, U.S.A.

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Across America by Motor Boat

(*Continued from page* 84)

Station, we struck out down the Manistee River, and around the breakwater. Lake Michigan was literally boiling. Never in all my travels have I seen such a mess of green mountains and white froth as we encountered that day. The first wave that struck us all but capsized us bow over stern, and for an instant I couldn't see the sky for the water going over the top of us. When we climbed the green wall of water and topped the summit we went hull out of the lake completely—dropping with a sickening thud into the foaming aquatic chasm beyond. Every time we went up the muffler of the motor went under with a loud hiss and a gurgle. Then we'd go careening skyward again, take the air, and drop like a thousand of bricks. Meanwhile we could scarcely see for the spray, and our gimbel-mounted compass was doing flip-flops like a foundry tumbler. Water was coming aboard about as fast as our double-action bilge pump could put it overboard. Although Transcontinental was a mighty staunch and seaworthy little hull, it was obvious to me that no boat ever built could stand that sort of punishment very long. It was obvious too, that we could take the punishment of pounding around all day in that sort of a sea, battling to keep afloat, and have nothing but bruises and strained nerves to show for it at the end of the day. In an hour of ceaseless hammering, we'd made just about two miles up the Michigan shore from the Manistee breakwater. At this juncture we came to the agreement that live cowards get more out of life than dead heroes—and that there's a vast difference between an adventurer and a fool. We decided to put about, and run for Manistee. Just how we ever got turned around in that sea without swamping is something I'll never be able to explain, but somehow we did it, although while we were making the turn water was coming aboard by the bucketful. In another instant we went yawing off down the tail race of a green mountain of water. Then we stood still—wallowing between waves, slowly climbing to the next foaming summit, taking the spray, and yawing off again. We managed to get back to the opening between the breakwaters in a series of yaws, wallows, and dousings. When we reached the Coast Guard Station we found Captain Kincaide still there. "Decided to take my advice—eh?" "Aye, Captain" we responded. "Well, you show good judgment."

(*To be continued*)

A Surprise in Engines

(*Continued from page* 41)

machine. The cylinders rotate around their axis, while the valve member rotates around the same center, but at a different rate of speed. Ports in the valve permit the fuel to flow into each of the cylinders in its proper turn, where it is fired and burned, and then discharged through an exhaust port, which is merely a continuation of the intake port. The gas flows through, and due to the method of ignition, which does not require spark plugs or their attendant gear, a particularly hot flame is propogated in each cylinder. The result is a perfectly smooth, even rotary movement without vibration at either high or low speeds.

The speed of this machine is limited only by the permissible stresses in the materials, and its torque is maintained through a wide range of speed. There are only two bearings to wear, and even should these wear so badly as to be loose, it will not cause knocking, as there is no reciprocation. A bath of oil on the interior of the housing provides adequate lubrication without pumps or pipes. All parts subject to heat are thoroughly waterjacketed, and a continuous circulation is maintained through them. Fuel economy is high, as the twenty horse power machine will operate on less than one-half pound of gasoline per horse power hour.

Brokers Feel Florida Urge

Tams & King of New York report that never before in the history of the firm, has there been such an interest and activity in boating, than has occurred this winter, particularly in connection with Florida requirements. Many of the largest yachts on their lists have been chartered for the use of owners in Florida, and a large number of their fine house boats are now in commission in the south. Quite a number of boats have also changed owners, and are now in active service. From present indications, it would seem that the activities on northern waters will be far greater than ever before, as a busy Florida season always is the forerunner of a busier northern season to follow.

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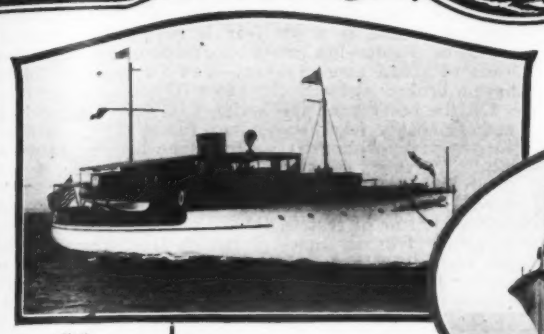
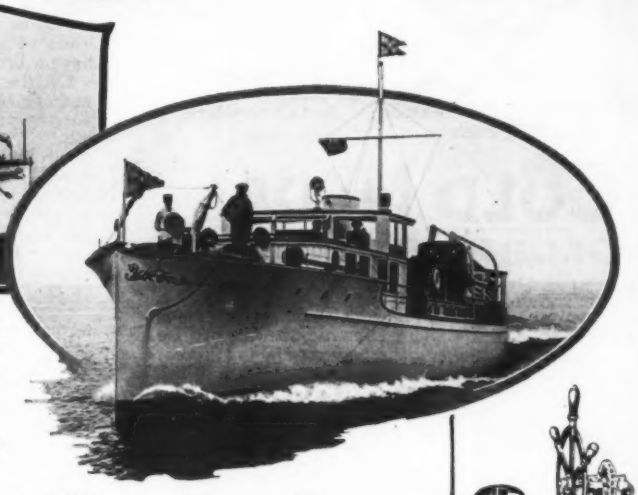
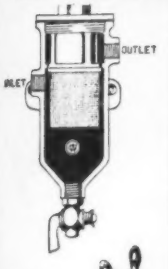




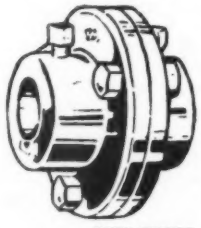
Above: 92 ft. Diesel Cruiser "Ramna," owned by Walter B. Lasher, president of the American Chain Co., Bridgeport, Conn.
Right: Twin screw cruiser "Sea Dream," 100 ft., 18 miles, owned by Samuel M. Nicholson, president of the Nicholson File Co., Providence, R. I.
Both of these beautiful cruisers fitted out with Wilcox Hardware.



The Best You Can Buy

When you put a fine craft overboard you want the best fittings on her that it is possible to buy. That means you will use Wilcox Dependable Marine Hardware, a wise selection that guarantees not only the utmost in safety but less cost of upkeep and higher resale value. To buy any of the fittings produced by the world's largest manufacturer of marine hardware, is to follow the example of the best builders and most particular boat owners.

You will be pleased with the service given by the Wilcox Flange Couplings, accurately made as to shaft size, within the limits of each size of coupling.



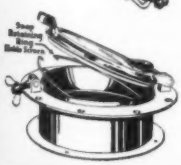
For example, a 1" and a 1¼" shaft may be coupled by using a No. 2 male coupling bored for one size and a No. 2 female bored for the other. Made in two weights, "Regular" and "Heavy." The "Regular" couplings are suitable for most marine engines; the "Heavy" for work boats where great strength is desirable. Each coupling is fitted with standard keyway and set screws.

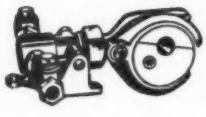
BUY THEM AT YOUR DEALERS' OR WRITE US

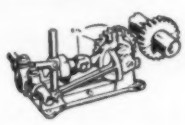
Every Boat Owner needs a copy of "Sea Craft Suggestions and Supplies." Solves those daily "puzzlers" that few know how to handle. Tells how to Box the Compass, etc.; describes WC Dependable Marine Hardware; tells uses. 50 cts. prepaid.

WILCOX, CRITTENDEN & CO., INC.
4 SOUTH MAIN ST., MIDDLETOWN, CONN.
WHEN YOU BUILD, INSIST ON

WILCOX FITTINGS







Water, the Safest Place on Earth

(*Continued from page* 21)

example, Chap's friend said that he enjoyed his boat but that he had a fear of the water. Without that fear he would get greater pleasure, a full measure of enjoyment. The man on the dock was tired of motoring but fear of the water held him back, robbed him of the pleasures of motor boating. And, of course, if a pet fear is permitted to become an obsession, to develop into a morbid fear, sooner or later it leads to a bad case of worry—and for my part I'd rather have a broken leg!

On the other hand the heritage is a good thing, because unquestionably fear keeps many of us in the straight and narrow path; without it we might be inclined to wander a bit. Of course, we credit this moral rectitude of ours to love of virtue. It pleases us and sounds well to our neighbors. But it should be credited largely to fear—fear of discovery, fear of results, fear of punishment.

Science tells us that we inherit from remote ancestors this instinct of fear. Also, that one individual may inherit a greater tendency to fear than another, but that an individual cannot inherit a particular fear. Then, where does this fear of the water come from? If we do not inherit it, if we pick it up somewhere as we travel the road from infancy to manhood, where do we and how do we?

A common way is to have it wished on us. As an example let me relate part of a conversation I overheard one day last summer on a club house porch. Two women were chatting together. The first had a small boy. And the small boy had a small boat in which, at that very minute, he was enjoying life out on the bay. This woman told her friend that she had purchased the boat for her boy only with the greatest of reluctance.

"You know," she said, "I live in constant horror of something happening to him! I've told him repeatedly how dangerous sailing is and how he ought to be very, very careful! You know his uncle ran off to sea and followed it for years. And he had some terrible experiences! Why, one time his boat was wrecked or something and he had to live on a life raft for ever so many days without food or water. Just think of it! And I'll tell you right now, I don't want my boy to go through any such thing!"

Now just how that doting mother expected her boy, sailing a fifteen foot boat within a thousand feet of land, to suffer such an experience, was something that I could not figure out. Be that as it may, just at that particular moment a little puff of wind came along and the boat heeled ever so slightly. The woman gave a gasp, held her breath, and then, as the boat righted itself, she went on:

"There!" she exclaimed. "Did you see that? I thought that child was surely going over! Why any healthy normal child wants to do such things is beyond me!" And she shook her head.

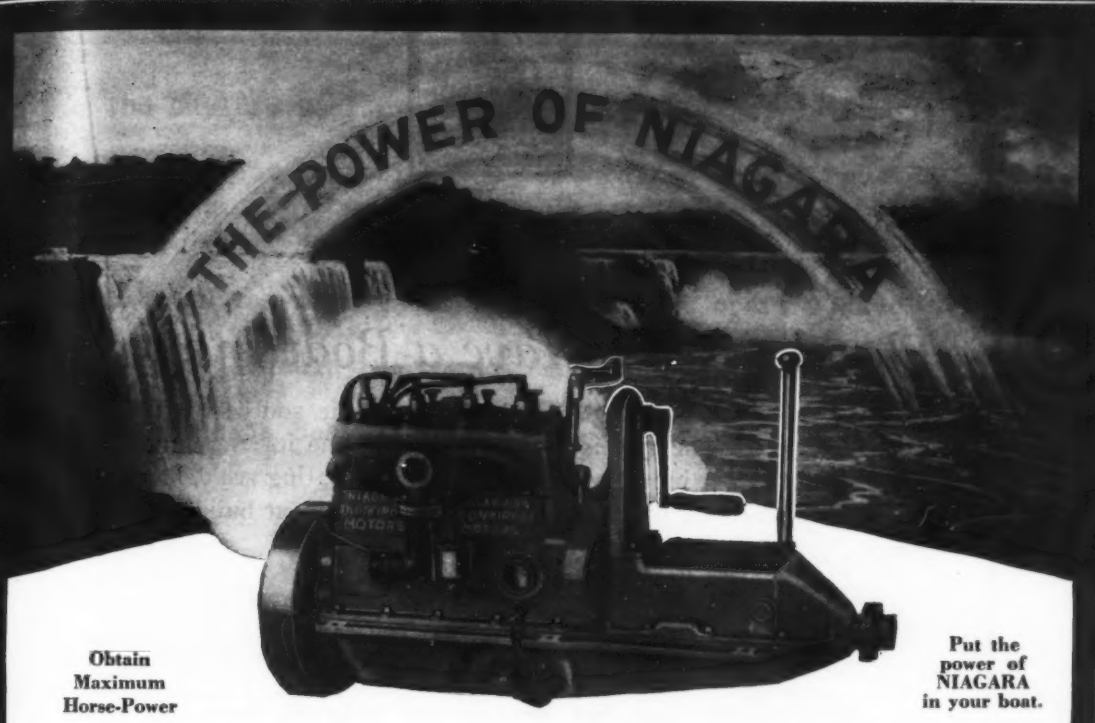
I was tempted to butt in and tell her that her boy wanted to do such things because he was healthy and normal and that she ought to be glad of it; but I refrained. In about fifteen minutes the boy came in; and fond and doting mother excused herself and rushed down to the landing float. There, no doubt she told her boy more of the dangers of the deep and impressed upon him the wisdom of following a course of safety by sitting with her on the porch.

Then, I do not believe that that boy had any fear of the water. If he did he didn't show it anyway. But just let doting mother keep up her foolish advice and when that boy is a man he'll not like the water. He'll have a fear of it that'll be difficult for him to understand and hard for him to shake off.

Of course, doting mother did not realize the harm she was doing. Mother love, the old mothering instinct prompted her thought and actions. Whenever the boy ventured out in his boat, she thought of the uncle and his harrowing experiences. She failed to reason. She had a fear of the water, she knew from the experience of another what disagreeable things might happen and she wanted to protect her offspring. Natural, but illogical, thoughtless, and hard on the boy.

But fear of the water is not always wished on us. Here it would have been quite possible for the mother to have been without any fear of the water and yet for the boy to have an intense fear. Suppose that the uncle, returning from his trip, had related his experiences in the presence of the boy. The mother might have heard the story without paying any particular attention to it. That is, her common sense would have told her that while the uncle had been, unquestionably, in great danger it was not sensible to assume that all people who ever step into boats have the same experience. But the child would not have reasoned that way. To the child the story would have been almost an experience and

(*Continued on page* 100)



Obtain Maximum Horse-Power

Put the power of NIAGARA in your boat.

4 cyl. 12-15 H.P.
150-1500 r.p.m.
2¾" bore x 4" stroke.
Bosch magneto or Atwater Kent Ignition.
Joe's Reverse Gear.
NO EXTRAS TO BUY

Complete and smart, well designed and sturdily built. Slow medium duty or high speed.

AGENTS—BOAT BUILDERS
Unusual opportunity for dealers in open territory.

DON'T DEPEND ON LUCK

THE NIAGARA "SPECIAL" 4 cylinder, 4 cycle, 12-15 H. P., will take you there and bring you back.

An unreliable, underpowered power-plant is treacherous and expensive. Use a NIAGARA and guard against disappointments, delays and danger. You will find welcome relief in this complete unit for small open boats, runabouts, fast tenders and small cruisers, its ease of operation, starting and ability to keep everlastingly at it. THAT STEADY GAIT day in and day out.

NIAGARAS have been known for their superior quality and genuine dependability.

The NIAGARA "SPECIAL" has achieved a reputation for low fuel consumption, very low service and repair costs. Everything about this motor will warm up every ounce of pride within you. Get the thrill of its performance.

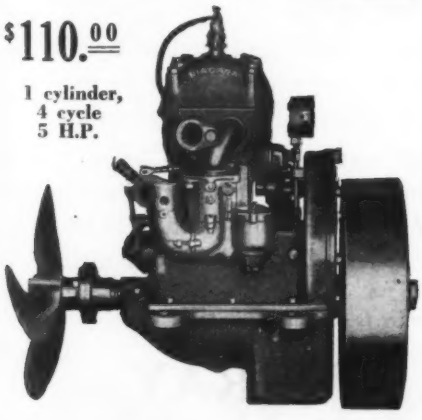
Write for specifications and observe the rugged construction as well as the general high quality.

THE NIAGARA "GEM" gives a surprising performance and a service that lasts. You will find it the best you can buy in its size. You'll be enthusiastic about this NIAGARA "GEM" because of its power and even running. Unfaltering, you will find it ready to go and almost without vibration .

Here is an engine that offers the most value in genuine marine engine service today. It will surprise you with its ability and power. Its hot spot manifold guarantees you the most miles per gallon you ever realized. Its measured perfection and finish is consistent with reputation of its builders, for quality and durability. Compare the specifications, its sturdy counterbalanced crankshaft, extra large bearings and heavy flywheel.

$110.00

1 cylinder, 4 cycle 5 H.P.



COMPLETE, READY TO RUN $110.00

State the model you are interested in and write for free booklet.

NIAGARA MOTORS CORPORATION

BOX 300

DUNKIRK, N.Y.

AHOY!

Florida Is To Have a Boat Industry!

DEMAND calls for supply, and supply at the source of demand is efficiency. The tide is turning and the time for the inauguration of the Power Boat industry, on a national fabricating scale, has arrived. The logical place for the first of a series of large boat building plants is Florida, because:

¶ We have twelve months of ideal boating weather.

¶ We have skilled master boat builders here now from the shops of the country's largest northern plants.

¶ We have had the situation reviewed thoroughly by northern experts.

¶ We have Internationally known Marine Architects available.

¶ We have an inexhaustible supply of materials right in the state.

¶ The demand for local built boats, of standard stock designs and selling on the same basis as the automobile, has made the construction of this plant a Necessity.

We Need

Twelve acres of land in Florida, on deep water, and backed by a community that is entirely sympathetic to the establishment of an industry of this high character. Railroad and power facilities are essential.

We want the financial backing of all investors who are interested in yachting and motor boating, as this company, which will be the nucleus of a great national industry, is being established with that point in view, and its stockholders should be both ardent boatmen and boosters as well.

Investigation of this enterprise is cordially invited.

R. STUART MURRAY

Power Boats and Water Craft

Mezzanine, Hillsboro Hotel

TAMPA FLORIDA

Advertising Index will be found on page 186

The Cutless Bearings installed on the "Henrietta III" are without exception the best things that I have on this boat – satisfactory in every way. I have your Cutless Bearings in several different craft I have built and would recommend them to anyone building or owning a boat.

Yours very truly,
E. H. Scott
E.H.Scott Transportation Co.
Erie, Penna.

The Henrietta III won last year's Kermath powered boat race at the Detroit Regatta

The Goodrich "Cutless Bearing" is lubricated entirely by water.

Its rubber surface—called "Olivite"—far outwears any bearing material heretofore in use.

It assures easier, smoother running. Vibration is greatly reduced. Shaft scoring practically eliminated.

You have less bearing replacements and greatly reduced dry-docking expense.

Supplied for any size craft—from a motor-runabout to a tanker.

THE B. F. GOODRICH RUBBER COMPANY
Established 1870 *Akron, Ohio*

Goodrich Cutless Bearings

New York City—Topping Bros.
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Jacksonville, Fla.—Gibbs Gas Engine Co. of Florida

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Water, the Safest Place on Earth

(*Continued from page* 96)

a pronounced fear of the water might have resulted. "Depending upon the influences brought to bear during the formative period," writes one author, "one can be made courageous or fearful, happy or discontented and not only through childhood but throughout life."

A third way of picking up a particular fear, such as fear of the water, is to pick it up indirectly. Suppose, for example, that one is on a railroad train that runs off the track while on a high bridge or trestle. The coach hangs perilously close to the edge. All that keeps it from falling is the weight of the cars that remain on the track. At any minute the coupling pin may give way and the coach go crashing to the rapids underneath, where the water eddies and foams and roars about great rocks.

The passengers crawl back through the coach to safety; but for every inch of the way there is the knowledge that at any minute the pin may break. The mind pictures the crash, the water flooding into the coach and the passengers caught like so many drowning rats.

Probably, however, the most frequent cause of a particular fear is a shock or disagreeable experience in childhood when the mind is particularly plastic and impressionable. Two years ago, discussing this matter with a friend, he told me of an experience of his.

It seems that he had a fear of the water that was most annoying to him. Swimming in the most sheltered and shallow of waters was absolutely out of the question. He could not step into a small boat without great beads of perspiration forming on his forehead. Many of his friends were yachtsmen and always he had to refuse their invitations to cruise; and frequently such refusals placed him in an embarrassing position for he did not like to admit that he was afraid of the water. He told me how he envied these friends for their water-fearlessness. He told me how, from shore, he had seen them dive from the deck of the yacht, swim around the boat, climb to the deck and dive again; and how it bothered and worried him to think that he could not do it.

He could if he wanted to, you say? He could not! He could not any more than you, perhaps, can climb a seventy foot pole without getting dizzy, or walk a narrow plank that is laid from two places high up from the ground. Moreover, do not think for one minute that there was anything cowardly in this man's makeup. Far from it; for he was a man of unquestionable courage. He simply had a distinct fear of the water; and he didn't know why!

He made up his mind, however, that he was going to find out! And he did! After a considerable amount of work, this fear was traced to an experience of childhood that he had forgotten until it was brought to his memory. When he was three years old his parents spent the summer at Shelter Island. One day, at the bathing beach near the Prospect House, he was playing around in a bathing suit. He would wade out until the water came to his knees, give a shout of delight, and then rush for dry land. He played around as you and I have seen ever so many youngsters do. An elderly man, a friend of the family, and a splendid swimmer observed the child and, coming up from the rear, suddenly grabbed him, held him to his shoulders with one hand while he swam out toward the float. The youngster let out a cry of fright; then as he felt the water coming up about him he yelled; and he yelled all the way to the float and all the way back. On shore again he rushed to his mother. He discarded that bathing suit—and for forty-three years had a fear of the water!

Like the doting mother, this good friend meant well. He was going to teach that youngster how to swim. But he went about it the wrong way. Like a man I saw this summer trying to teach his youngster to swim. Evidently the boy, perhaps five years old, had some fear of the water. Left alone he would have overcome it. But this father, in mistaken enthusiasm, forced the boy into the water. And when the boy cried, the father called him a "'frait cat!" and shooed him to the mother. If that father follows the same tactics with other difficulties, with other fears, he'll be real helpful to his offspring—not!

Well, if we have this fear of the water, if we pick it up somewhere as we travel the road, can we cure it? We can! And how? That can be answered in a few words; bring the cause of the wear into the light of knowledge! Analyze it, dissect it! Let me illustrate this: Two evenings ago I spent the night here at the house alone. Now we live in a small house on the shore of Manhasset Bay, far from the beaten path and at quite a distance from neighbors. I went out for supper and quite carelessly left the door ajar.

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American Gas Turbine Marine Motor

Gasoline Turbine Type Power Plant

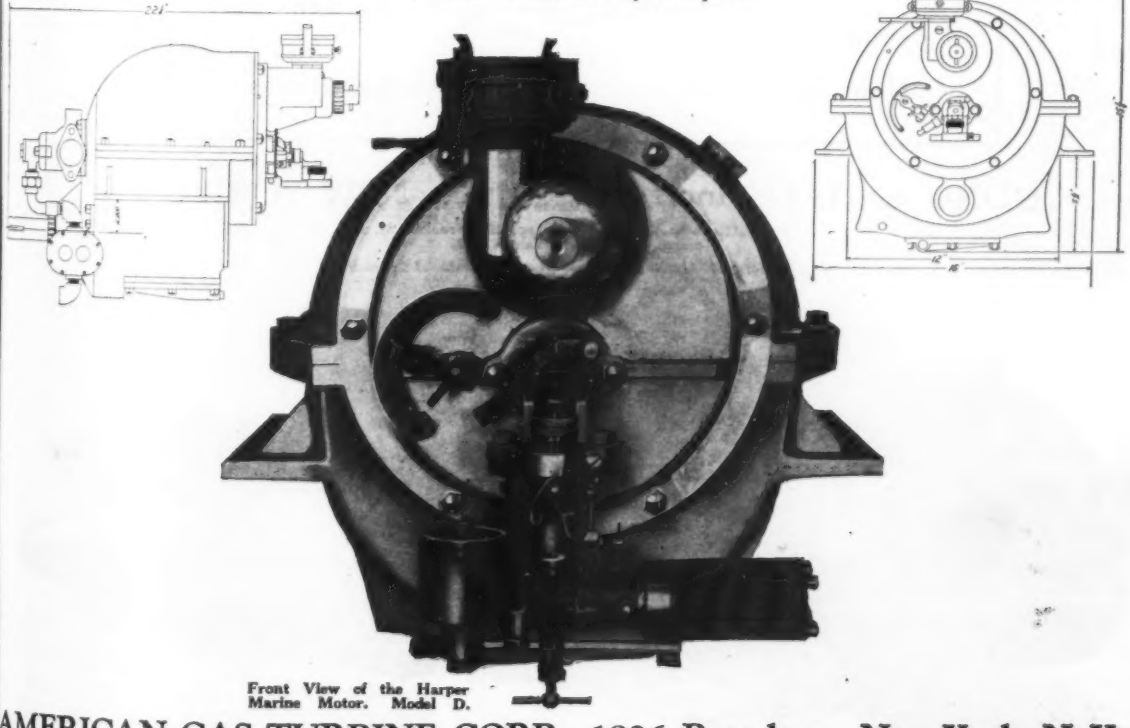
Model "D" Harper Marine Turbine Motor. 29 H. P. at 3500 R. P. M. Speed range 300 R. P. M. to 5000 R. P. M. Weight 125 lbs.

THE Turbine Type Marine Motor has all of the characteristics of the turbine engine principle, but does not use blades. It differs distinctly in principle and design from any type of gasoline engine heretofore constructed. It is extremely simple in construction and comprises only about 20 essential parts.

No crankshaft, no poppet valves or reciprocating parts are used, consequently there are no reversal strains, impact shocks or alternating stresses to cause either wear or vibration. The chambers and reaction members in the Turbine Type Marine Motor are strictly rotating elements around different centers. These rotating parts are so accurately designed that perfect balance is secured in all positions and at all speeds. The result is a perfectly smooth, even rotary movement without any vibration. So smooth is its operation that it is hard to judge when the motor is running.

Its installation requires no more than one-quarter the space taken up by the old type of reciprocating engine. Its weight is less than one-half that of the reciprocating motor of the same power. In actual operation the Turbine Type Marine Motor has proven itself to be the most economical, both in fuel and oil consumption.

Further details sent upon request.



Front View of the Harper Marine Motor. Model D.

AMERICAN GAS TURBINE CORP., 1926 Broadway, New York, N. Y.

Phone Trafalgar 3846

Advertising Index will be found on page 186

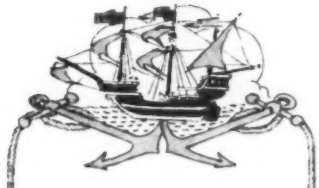
A motor boat without a handy supply of Mobiloil aboard is like a fountain pen without a handy supply of ink.

Keep a five gallon can of Mobiloil in your ship's stores. You are ready to add oil whenever it's needed. You never have to accept waterside substitutes.

57 motor boat engine manufacturers recommend Mobiloil.

LOOK at the plate on your engine. These 57 manufacturers are now putting plates on all their engines recommending Mobiloil and stating the correct grade to use.

The Mobiloil dealer can also tell you the correct grade of Mobiloil for your engine. He has the Mobiloil Chart — prepared by the Mobiloil Board of 42 engineers.

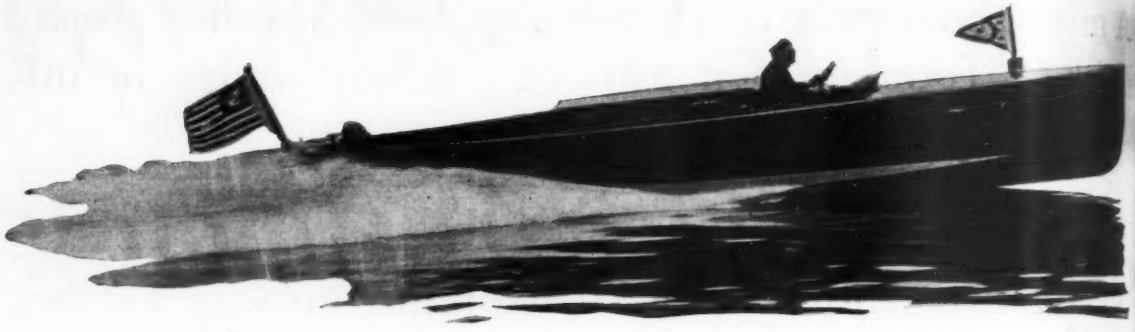


WE are now studying the motor boat models, shown for the first time at the 1926 Motor Boat Show. Mobiloil recommendations for these and other motor boat engines will be given here next month.

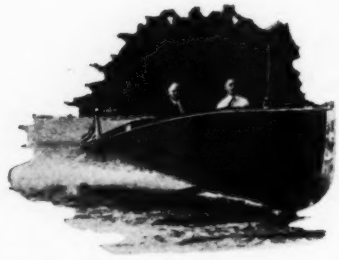
If you wish advance recommendations, please write to our New York office, stating the make and model of engine with which your boat is equipped.

See the Mobiloil dealer and get a 5-gallon can of the correct grade of Mobiloil to keep aboard. Also write us for your copy of our free booklet, "Correct Lubrication for Motor Boat Engines." It contains the Mobiloil Chart and much other useful information. Please address: Dept. A, Vacuum Oil Company, 61 Broadway, New York City.

VACUUM OIL COMPANY NEW YORK, U. S. A.



The New 26 Foot Albany Runabout Is Now Powered with The Kermath Four and Six



26'x6½' Albany Runabout powered with 4-cylinder Kermath 70-H.P. motor; speed 23 miles an hour.

26'x6½' Stock Model Runabout with 6-cylinder 100-H.P. Kermath motor; speed 28 miles an hour.

KERMATH
EQUIPPED

F. O. B. Factory
with 6 cylinder $4000
with 4 cylinder $3500

In announcing the famous 26 foot Albany all mahogany runabout as standard equipped with the Kermath 6 cylinder 100 horse power marine motor, we do so with the certainty that all other motor possibilities have been exhausted by comparison. Kermath motors, we have found, offer greater speeds coupled with the much desired reliability that precludes the petty annoyances resulting from minor motor troubles.

The Kermath is a fitting engine for a fine boat. In the past Albany has prided itself on the high quality of its workmanship and the choice materials used in the construction of their craft.

This standard is reflected in the reputation its standardized runabout enjoys with its many owners. The in-built qualities of sound construction and perfect design in Albany boats have long been factors that seriously recommend themselves to those who contemplate owning a smart serviceable runabout.

ALBANY BOAT CORPORATION

WATERVLIET

NEW YORK

Advertising Index will be found on page 186

KERMATH

Kermath Marine Engines Power Chris-Craft Runabouts

A good boat builder always has the best interests of his customers at heart. It is good practice to pick a man with experience — and follow his advice. He will always recommend the motor that best serves the user.

Each year reveals a more decided trend on the part of the boat builder to standardize on one make of motor to perform a definite task. Aware of the importance that such standardization has upon the buying public, Chris Smith & Sons Boat Company, builders of the famous Chris-Craft runabout, have picked the 150 horsepower Kermath six cylinder marine motor as the power plant for their entire output of Chris-Craft runabouts.

Chris Smith & Sons Boat Co.
ALGONAC MICHIGAN

3 to 150 H. P.—$135 to $2150

KERMATH MANUFACTURING COMPANY
5879 COMMONWEALTH AVENUE -:- -:- DETROIT, MICHIGAN
50 W. 17th Street, New York City 11 E. Wellington Street, Toronto, Ont.

"A Kermath Always Runs"

BOAT ENGINES

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Advertising Index will be found on page 186

For the Man who wants his Boat when he wants it!

Arthur L. Lee, managing director of the Hotel McAlpin in New York, is one of those busy men who takes his recreation in earnest. His Mullins Sixteen-foot Special contributes to "vacation efficiency."

MULLINS BODY CORPORATION
Boat Dept.
501 DEPOT ST. SALEM, OHIO

Gentlemen:

You may send me further information on your boats.

Name_____

Street & No._____ (or R. F. D.)

City_____ State_____

Since we can't tell you all about Mullins Steel Boats within the confines of this page—may we ask that you send the coupon for the whole story?

It is no longer necessary to devote your life to the business of being a boat owner. You can have a Mullins.

The Mullins steel boat is triple galvanized, built with life-boat air chambers fore and aft. It can't warp, it can't check, swell, shrink or dry out—and it can't sink. It's a good idea to give it a coat of paint once a year but that's not essential. With the Mullins you don't even need a boat house. Just turn her upside down on the beach and she's "in" for the Winter.

With a Mullins—you can take your boating or leave it alone!

This trim little craft, made in four launch models, and three rowboat models, including the famous "Outboard Special" is the seagoing "Topsy."

Also, as a result of Mullins automotive production methods, the large investment once required for any worth while boat is a thing of the past.

Thus the Mullins Steel Boat is the logical choice of the busy man who must work when he works and play when he plays. For the Mullins owner plays with the tiller rather than the scraper—and his mind is free of the yachtsman's spectre "How Much Is It Costing me?"

MULLINS STEEL BOATS

Water—the Safest Place on Earth

(*Continued from page* 100)

I discovered it upon my return and wondered if I had left it that way, or if, while away, I had had some visitors. I put on the lights and sat down in my study to read. Presently I heard a noise up-stairs. I listened and then the noise quit. Then I heard it again. It bothered me so that I could not concentrate upon my book. I wondered if sneak thieves had gotten in and were, at that minute, upstairs. It was not a comforting thought. I was quite conscious of an emotion of fear. Finally I put down the book and went up to investigate. I found that a shutter had worked loose and was scraping against the window ledge. I returned to the study and my book. The noise continued at intervals but it did not bother me. I had brought the cause of it into the light of knowledge.

In like manner, the only way to remedy a definite fear of the water is to search out the cause as my friend did. Of course, even with the cause known, his fear did not disappear at once. But he knew why he was afraid of the water. He was in a position to reason intelligently with himself.

Of course, it is not always a simple matter to trace the cause. Under such conditions it may be necessary to call in professional help; one who understands well the complicated workings of the mind. He would probably give you an association test. That is, he would sit you comfortably in a chair, in a pleasant room. He would ask you to relax both physically and mentally. He would ask you to think of something, anything, that might be related to your fear. He would mention certain words and ask you to tell him, quickly and without thinking, what the words meant to you or perhaps what the words suggested. One idea suggested either by him or by you would lead to an associated idea and eventually the fundamental experience that caused the fear would be discovered. And, very likely, it would be as simple a thing as the shutter scraping against the window ledge!

Then the rest of the cure would be up to you. For example, suppose you had the same intense fear of the water that my friend had. Motor boating, swimming, sailing, were all taboo for you because of this fear. And yet you wanted to motor boat, to swim, to sail. But, you say, why attempt something that causes uneasiness through fear? Several reasons: Possibly your friends are all water-bugs and your fear keeps you from sharing their pleasures, makes you a wall-flower. Possibly friend wife likes the water, would like to have a boat, but your fear of the water holds you back and friend wife is old-fashioned enough to insist upon sharing pleasures. Or, possibly, it is the other way around; you would like to have a boat, to live aboard, to cruise, but friend wife is so afraid of the water that you give up the plan.

Whatever the reason, you make up your mind that you are going to lick this fear. We'll assume that you know the cause; that is, know where and how you picked up the fear.

So, first, your common sense tells you that there is no reason why you should be unhappy because of a little incident that happened twenty or thirty years ago and over which you had no control. If Uncle George had not told his story in your presence, or if Uncle Henry had not grabbed you so suddenly and started out to the float with you, you'd have no water-fear. Your common sense, then, tells you that your fear is based upon some experience which, when analyzed, amounts to nothing at all.

A good definition of fear is that it is an emotion arising from the expectation of something disagreeable. In other words you expect something disagreeable to happen if you trust yourself to a boat.

Well, what can happen? That is, what more disagreeable thing can happen with the boat than with the motor car?

You might run out of gasoline? Yes! And with the automobile you can walk to the nearest supply station and lug back a five gallon can, whereas, with the boat you feel that you would be wholly at the mercy of the sea. Granting that to be a fact, what about it? The sea is kind. You have your home with you. You can eat and sleep until some passing boat gives you some gas or tows you into port. And even if you haven't home conveniences, it's no great hardship to go forty-eight hours without food. I know because I've done it. Moreover, anywhere you would be likely to cruise, boats would be within hailing distance every half hour at the least. So there's nothing to that to cause unhappiness, is there?

You might experience engine trouble that you could not repair? Very unlikely! But the same answer applies. Indeed, I think that I would rather experience engine trouble on the water than I would on a lonely road. Ser-

(*Continued on page* 114)

Matthews—"38"

A Standard for Comparison

A Matthews "38" Special Double-Cabin Cruiser traveling at 20 miles per hour with 200-H.P. Motor installed.

Why Experiment?

The remarkable low price with Matthews quality made possible by large production and modern manufacturing methods on the Matthews "38" makes this boat *the world's greatest buy*.

The Matthews Company,
Port Clinton, Ohio.

Tampa, Florida,
December 12, 1925.

Dear Mr. Matthews:

I have had my boat just three weeks and thought you would be interested in knowing what a hit this cruiser is making in Tampa. I have probably shown a half hundred boat lovers the conveniences and in-built quality of this boat, and the usual remarks are, "How can they do it for the money?" As you are probably aware, this is the first Matthews "38" in Tampa, and I have no doubt there will be many others provided you can build them fast enough.

Very truly yours,

Wm. E. Deane, Memorial Highway, Tampa, Fla.
R. F. D. 4, Box 100.

NOTE: Mr. Deane is the owner of a Matthews "38" Standard cruiser equipped with a 6 cylinder Kermath motor.

"Matthews 38"

THE MATTHEWS COMPANY
Port Clinton, Ohio

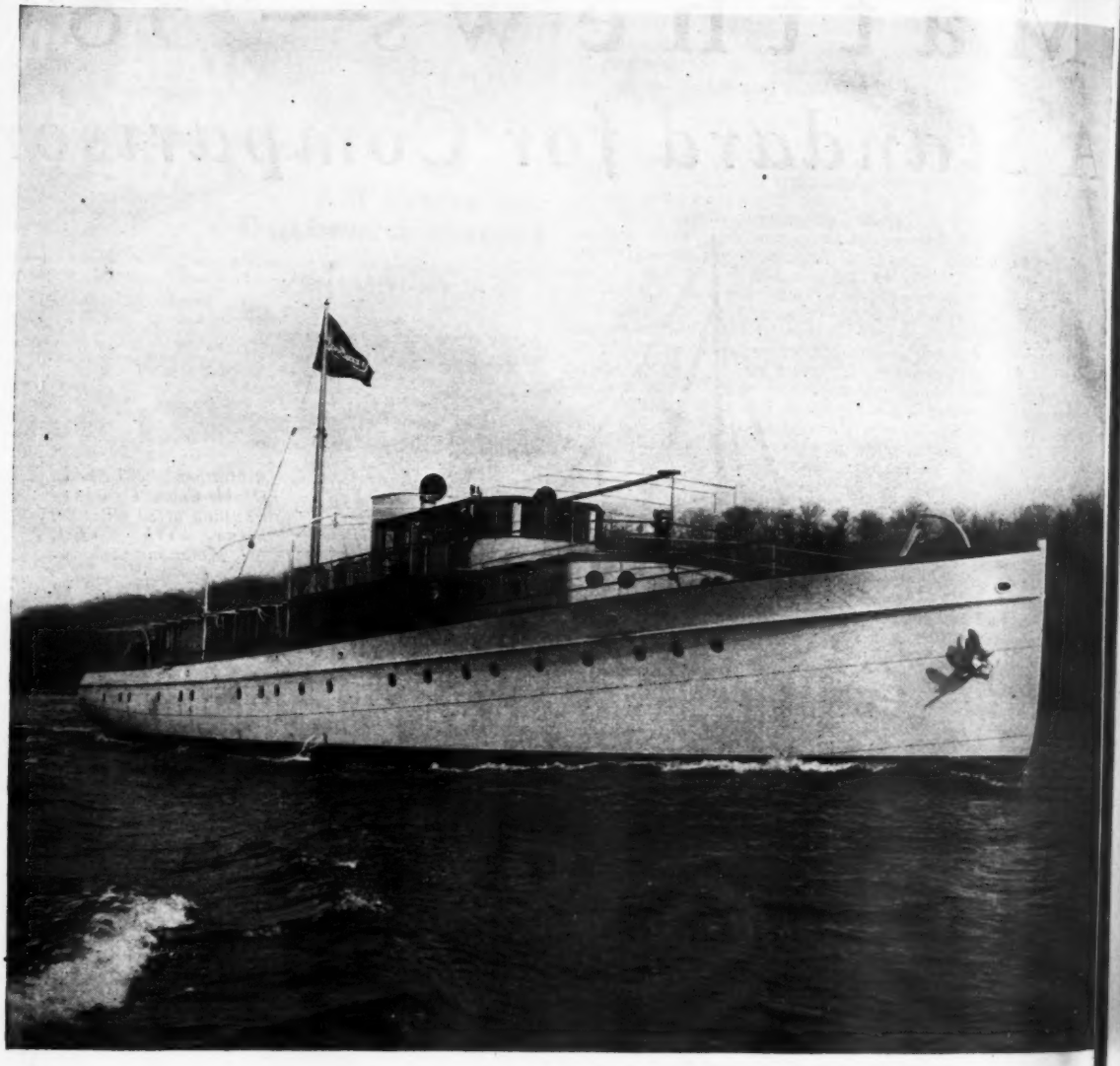
Distributors of the Matthews "38"

Seaboard Ship Brokerage Corp., No. 4 Datura Arcade Bldg., West Palm Beach, Fla., and 8254 Michigan Ave., Chicago, Ill.

Walter H. Moreton Corp., 780 Commonwealth Ave., Boston, Mass.

Stephen F. Murphy, Alexander Bldg., San Francisco, Cal.

F. W. Hardcastle, 210 South Ave., 57, Los Angeles, Cal.



Another Consolidated Achievement
The Motor Yacht "*Shadow K*"

THIS 150-foot steel motor yacht, built from the designs of The Purdy Boat Co. for Mr. Carl G. Fisher, has been completed at our Morris Heights yards. With the flare forward emphasized, and with the tumble home stern, "Shadow K" possesses lines of appealing beauty and grace.

The interior of this latest Consolidated achievement suggests the combined creative genius of owner, designer and builder—

Advertising Index will be found on page 186

and reflects to a marked degree the skill of the latter in carrying out and constructively improving the desires of the two former.

Hominess is the keynote in the dining saloon, arranged in the deckhouse forward, furnished with comfortable overstuffed lounges and settee, and having a fireplace of unique design. The after deckhouse includes the master staterooms and saloon, while below decks the guests' staterooms are arranged aft, the engine room about amidships and the crew's quarters forward.

Just aft the dining saloon is a galley and butlers' pantry of unusual proportions, allowing a freedom of movement, ample space for carrying an exceptionally complete equipment and, being on deck, enjoying an abundance of light and air.

The power plant consists of two model 115, six cylinder Winton-Diesel engines, developing 500 H.P. each at 450 R.P.M.

If you are interested in Motor Yachts, Cruisers, Motor Boats or Launches, our designing and engineering service will help you—address your communication to our Executive Offices at Morris Heights, New York City.

Consolidated Shipbuilding Corp.

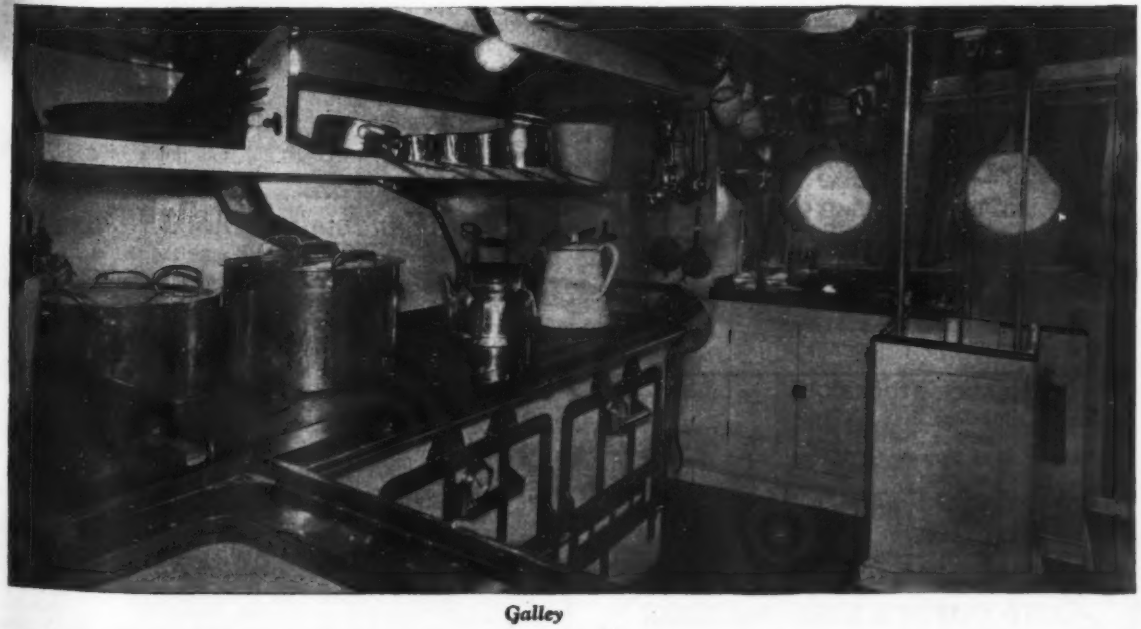
MORRIS HEIGHTS NEW YORK CITY

Designers & Builders of Runabouts, Playboats, Day Cruisers

House Boats, North & South Cruisers Motor & Steam Yachts

Dining Saloon

Master Stateroom



Galley

Water—the Safest Place on Earth

(*Continued from page* 110)

eral years ago a coil went bad on my car when I was on a lonely road up in the North woods. It was ten o'clock at night. I had no blankets with me, no camping equipment whatever and it was mighty cold! There was nothing for me to do but to make myself as comfortable as possible, which was anything but comfortable, and to wait for a tow. One came along at ten o'clock the next morning. On my boat I could have turned in, had a good night's rest and breakfast in the morning!

But, you say, suppose in these cases of being stalled on the water, a bad blow comes up and with it a bad sea? Well, what about it?

You know it's going to take a heavier sea than has ever been known before your boat is going to capsize. A boat has something that is not listed as standard equipment; and that is the center of buoyancy. The more the boat tips over the greater the push or lifting power of the water to set it straight again. How far over do you suppose a boat can go without capsizing? It can go to a forty-five degree angle easily. Take a book and hold it parallel with the table. Now tip one side down until it is half way to the table. You couldn't begin to stand on deck at that angle—and yet the boat will right itself.

So you see these things we term dangers do not amount to very much, do they? As a matter of fact, and all things considered, a boat is safer than a car. You would not hesitate because of fear to start out on a week's tour in your car would you? No more reason why you should hesitate for the same reason to start out on a week's cruise!

And just consider the pleasure afforded, the happiness involved. And, after all, happiness is, in the final analysis, that which we work and toil for. In the car, with family and friends, you are crowded at the best. You are confined to a mighty small space. After fifty miles you are cramped. You'd give a great deal to be able to stretch your legs but you can't because two bags and the lunch box are in the way! On the boat you sit in an easy chair; or you can go below and take a nap! If you are handling the wheel of the car, you've got to keep your eyes glued to the road ahead and your hands to the wheel. And if you want to light a pipe you need two more hands. But on the boat you can enjoy the society of your family and friends. You can let the wheel go for ten minutes or more and the boat will take care of itself.

And when meal time comes you do not have to eat a picnic lunch; little sandwiches and olives and little cakes all wrapped in oil paper, while you try to make yourself comfortable on the edge of a hard rock. Rather you go below and eat a regular meal in a regular way. And when night time comes you do not have to worry about hotel accommodations—just go below and turn in!

When you are trying to lick this fear of the water, think of the happiness, the joy, the pleasures that come with motor boating, with sailing, with swimming. Analyze the experience that gave you your fear of the water. Is it worth while to let a little incident rob us of pleasure? Life is great and grand and glorious! Life is a golden thing! Shall we permit a miserable little fear phobia to lessen our joy, lessen our happiness?

Of course not! We've got too much of good, sound, common sense!

Wanamaker to Sell Boats

The enterprise which has characterized the merchandising methods of the John Wanamaker stores in New York and Philadelphia has extended to the motor boat field. We learn that plans are well underway for this great organization to carry in stock on their sales floors, the several motor boat cruisers built by the American Car and Foundry Company. This is to include the smaller 33 foot cruiser as well as the 42 and 47 foot boats. In addition they have gone a step further, and have commissioned Messrs, Eldridge and McInnis in Boston to design exclusively for John Wanamaker's stores, a new 38 foot cruiser, which they will also merchandise. These boats will form the main stay of a very large and complete marine department, in which accessories of all kinds will be carried, and sold in the same way that other stocks are. All of these boats are to be powered with the Hall-Scott engines of the HSM type, the smaller one with a four cylinder machine, and the 38 foot boat with a six cylinder engine. The two larger boats will be supplied with the six cylinder engine with reduction gear equipment. To supplement this line of cruisers, the little 18 foot runabout built by the Paul S. Gesswein Boat Company in Brooklyn will also be carried, and sold in these stores.

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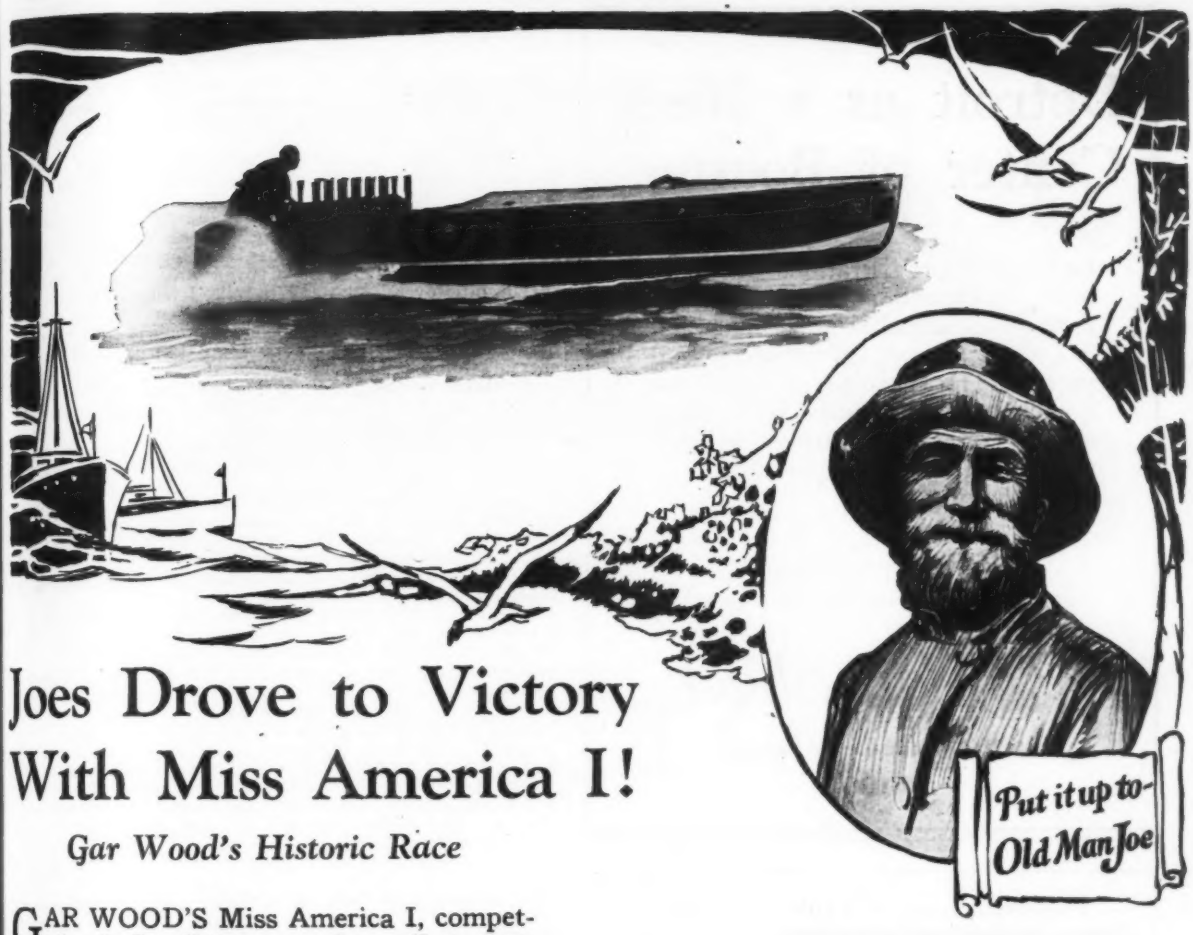


Joes Drove to Victory With Miss America I!

Gar Wood's Historic Race

GAR WOOD'S Miss America I, competing in English waters, beat all contestants and brought home the famous "Harmsworth Trophy," which still remains on this side.

Like a giant arm of steel, Joes Reverse Gear, Racing Model, quietly and efficiently transmitted the tremendous torque of the eager motors to the propellers!

Fine points of Joes Gears are direct drive and a reverse ratio so high that it amounts to a 4-wheel brake.

Joes has ridden to victory in practically all of the important races within the last ten years. In any one of these, it was given a work-out far more intense than it would be put to in any pleasure or commercial boat.

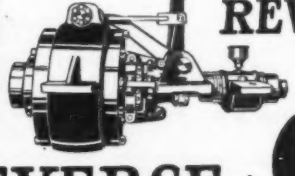
Know more about Joes; write for Bulletin 25-A.

SALES and SERVICE:

New York, N. Y.—Sutter Bros., 44 Third Ave.; Service Station, foot E. 92nd St., Brooklyn.
Boston, Mass.—Gray-Aldrich Co., Inc., 6 Commercial Wharf.
Philadelphia, Pa.—W. E. Gochenaur Mfg. Co., 621 Arch St.
Baltimore, Md.—Unger & Mahon, Inc., Pratt and Gay Sts.
Norfolk, Va.—Gas Engine & Boat Corp., Ft. First St.
Mobile, Ala.—Marine Supply Co.
New Orleans, La.—Arthur Duvic's Sons, 130 Chartres St.
Galveston, Tex.—Galveston Marine Supply Co., 2007 Strand.
Wilmington, Calif.—Fellows & Stewart, Inc.
San Francisco, Calif.—Johnson, Joseph and G. M. Josselyn & Co., 56 Sacramento St.
Portland, Ore.—Oregon Marine & Fisheries Supply Co., 105 First St.
Seattle, Wash.—Pacific Marine Engine Co., 900 Western Ave.
Chicago, Ill.—W. L. Masters & Co., 800 N. Clark St.
St. Louis, Mo.—William Groessmann Boat & Motor Co., 1630 Pine St.
Detroit, Mich.—Henry H. Smith & Co., 234 Jefferson Ave., E.
Lakewood, Ohio—William F. Meier, 1220 Warren Road.
Clayton, N. Y.—St. Lawrence River Motor & Machine Co.
Rochester, N. Y.—Volney E. Lacy, Charlotte Station.
Vancouver, B. C., Canada—Hoffar Marine Constr. Co., 1969 Georgia St., W.
Toronto, Canada—A. R. Williams Machinery Co., 66 Front St.
N. B., Canada—T. McAvity & Sons Ltd., 67 Water St., St. John.
Newfoundland, Canada—John Barron & Son, 241 Water St., St. John's.
Canada—Canadian Fairbanks Morse Co., All Branches.
Buenos Aires, Argentina, S. A.—Jose Banham & Sons, Peru 362.
Rotterdam, Holland—Fred J. Kemper.
New York, N. Y. (Australasia)—Melchoir, Armstrong, Dessau Co., 116 Broad St.
London, England—J. King & Co., 10 Church Row, Limehouse, E.

The SNOW & PETRELLI MFG. CO.
Main Office and Plant:
154B BREWERY STREET, NEW HAVEN, CONN.

JOES -FAMOUS REVERSE- GEARS



REVERSE 80%-88% OF MOTOR SPEED

By Water Ways to Gotham

(*Continued from page* 52)

deadliness had been built up in the popular mind about this spectacular chute and it was convenient to hand when sure fire stuff was needed, like flung custard pie or the wronged sister in the movies.

I really knew better, of course, than to plan to run any large rapid without looking it over first from the bank. The reason that I was willing to confine myself to a mid-stream survey of the Long Sault was largely because my table of locks showed that there was only a descent here of about forty-four feet in ten miles. Having run rapids on the Columbia and in the Grand Canyon with as much drop as that in little over a quarter of a mile, I felt that there could not be any great risk here. That a very considerable part of the Longe Soo's fall occurs in one continuous pitch near the head there was some indication from the soundings on the chart; yet the full significance of the deep blue colorings and shallow soundings did not come home to me until I had shut off my engine and drifted uncomfortably close to the brink of the really heavy descent.

I am still inclined to think that the main thing operating to upset my calculations was that forty-mile gale from the northeast, which, blowing against the current, was exerting its purposeful energies in an attempt to make what would normally have been long, rounded waves rear up and keep over on their backs. The effect of this was to turn the whole channel into an expense of blinding wind-whipped white—absolutely "unreadable" water so far as picking a course through it went.

The instant this rather disturbing fact came home to me I recalled no time was to be lost in backing up. Starting my motor and throwing it wide open at once, I headed the boat on a quartering course toward the slower water against the bank below the canal. Reassured by the speed through water, I was just rising to a balanced crouch to take a last look at the tumbling water before I left it behind for good, when, lo!—I was not leaving it. That the first of the breaking waves was perceptibly nearer than when I started the motor was confirmed when a scared glance shoreward revealed the illusion of the canal-bank slowly but steadily sliding back up-stream. Not until I had swung the bow of the boat directly up the channel, so that the motor could exert its full kick against the current, was that downward drift checked. For a minute or two progress, as marked by a sight across to the trees on the bank, was almost glacial in its slowness. Then, as we drew away from the speeding current running down to the brink, progress picked up faster and faster, until finally I was able to lay a quartering course for the head of the canal without losing ground.

From my own standpoint, the performance was not one to be proud of from any angle. If any credit was to be bestowed, it belonged to the motor for the fine burst of power it had shown in pulling out of the hole my carelessness and lack of judgment had got it into.

Letting down through the first lock of the Cornwall Canal, I ran along a mile or more to a point about opposite to the lower end of the first and main rapid of the Long Sault. From the bank by the side of the river there was as good a view of the famous Soo as could be obtained from any single vantage. Even then, however, I was quite unable to determine just what part of the broken water was due to the fall of the river and what to the violence of the wind. From where I stood there were visible several waves at which, if not avoided by even a heavier boat than my own, there would have been trouble. Farther over there appeared to be better water, but even this might have taken on a more threatening aspect as one drew near. It is impossible to get much of a working idea of rough water from a distance.

Natives always have many weird and wonderful recitals about adventures in their rapids, but it is always up to the credulity of the more or less unsophisticated stranger as to how much he shall believe. Taken merely as figments of primitive fancy, based on a framework of fact, these yarns are usually rather diverting; and when one of them is passed on to the outer world as the higher truth by an avowed seeker for and dispenser of truth, it is more diverting still. The following slightly condensed but otherwise verbatim account of the running of the first steamer through the Long Sault appeared in a handbook issued some years ago under the title of "The Picturesque St. Lawrence."

"The first large boat to attempt the passage of the Long Sault was the Ontario built about the year 1840 at the upper end of the lake of the same name. Her speediness attracted the attention of some Montreal men who bought her for a mail boat to ply between that city and Quebec. Then they grappled with the problem of getting her down to Montreal.

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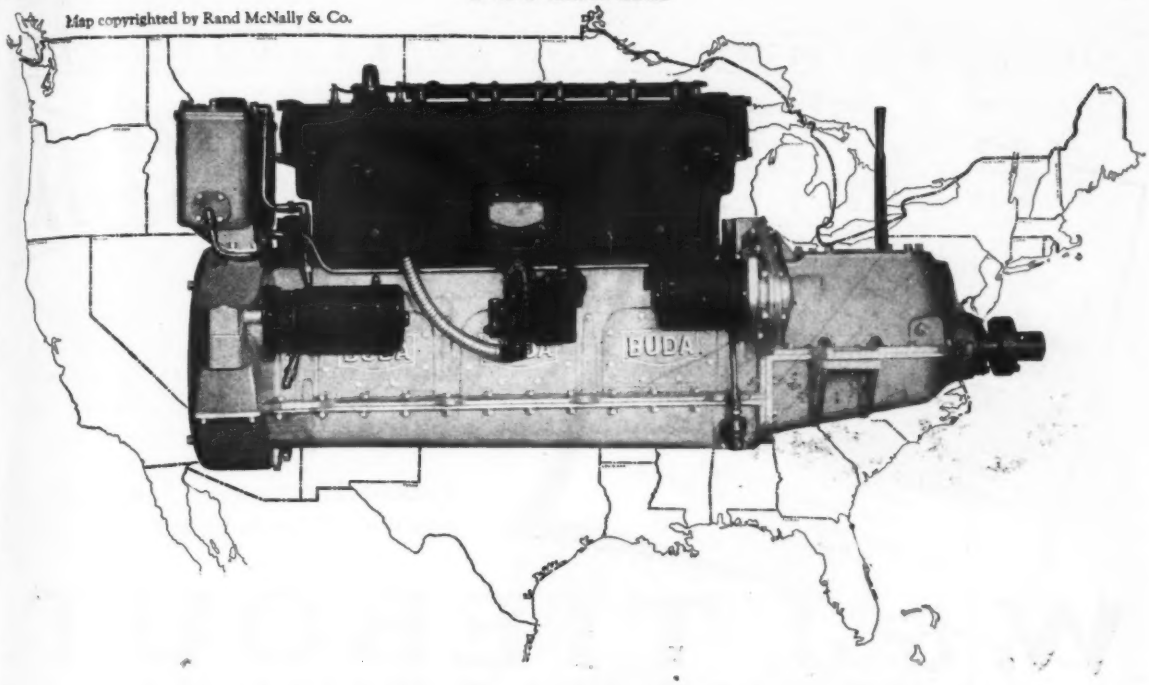

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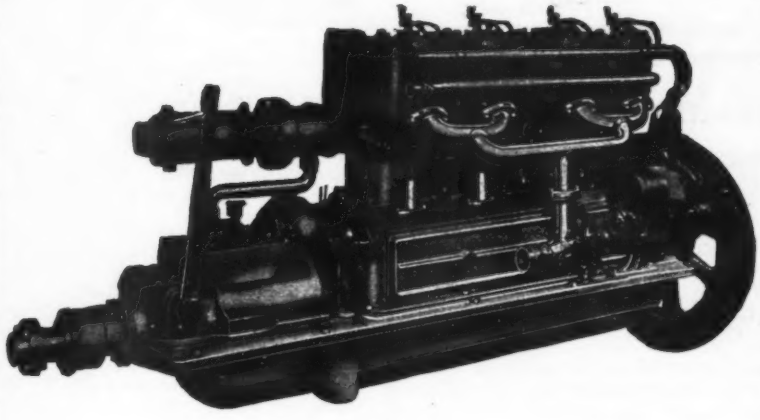

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Tampa, Fla., 233 So. Water St.

By Water Ways to Gotham

(*Continued from page* 118)

No craft of anywhere near that size had ever attempted to run the Long Sault but they secured for the hazardous undertaking two Indians known as Old Jock and Old Pete the best pilots on the river. The owners promised them one thousand dollars each if they accomplished the enterprise successfully.

"To test the depth of the water a crib was made forty feet square with cross pieces ten feet apart, and having stakes ten feet long projecting at frequent intervals from the bottom. Several Indians towed the crib out into the stream at the head of the rapids and let it go. Meanwhile a number of other Indians had been stationed in trees along the riverside to watch the crib's progress, and still others were stationed at the foot of the rapids where they caught the crib when it reached quiet water. The crib was turned over and it was found that none of the stakes were broken. So it was plain that there was water enough to run the Ontario through.

"The Indians who had been in the trees on the bank then went on board the vessel and the voyage began. Each piloted it in turn as far as he had observed the crib's course . . . Thus was made in 1843 the first steamer trip down the rapids, and a descendant of one of those pioneer pilots now guides with trusty hand a modern boat that goes over the same course. . . ."

It is just possible that the crib contrivance was tried, though it could have been of no use save in showing the set of the current. Moreover, such a contraption, because not under control, might have been smashed a dozen times in floating down a river where there was plenty of water for a well-handled steamer. The pearl of the oyster, however, lies in the picture of that co-operative association of Indian pilots lined up to take their places at the wheel. To any old river pilot that would be worthy of a place with *La Chaise Gallerie*—the legend of the aerially navigating bateau.

The passing of several large up-bound steamers in the narrow Cornwall Canal furnished a new experience. Running even at quarter-speed the slowest of these pushed ahead of it a great rounded hump of water several feet higher than the mean level of the waterway, while immediately following was a depression equally pronounced. Running over the brink of the wave between the two with the swift equalizing current was almost like dropping into the head of a rapid. A steamer which passed while I was moored alongside the bank left my boat high and dry on its side for a minute or two that it took to replace the hump of water pushed on ahead.

Congratulating myself on having avoided a possible swamping in the Long Sault, I pushed on down the Canal to the second lock from the head—Number 20. Seeing the way my boat was bumping against the wall of the wind-torn entrance basin, the lock-master, who at first had asked me to wait until an approaching steamer had been locked up, decided to put me through at once.

There was nothing but the most courteous and kindly intention behind the considerable act. Where the slip came was in not holding back the steamer long enough for me to get well out of the way, and even that would not have made trouble had there not been a confusion of signals. Probably not realizing that there was even a small boat in the lock, the captain of the steamer headed right on into the narrow channel instead of mooring below as he would have to have done had there been a ship of his own size coming down.

When I pulled out through the opening lower gates I found the hull of the nearing freighter filling the passage almost from wall to wall, with room for me to pass only if it was crowded well to one side. The Mate, directing the handling of the mooring lines from the bow of the steamer, motioned for me to keep to the left. Seeing that the bow was swinging in that direction, however, I assumed that I had misunderstood his signal, and so, throwing my whole weight onto the oars in an endeavor to drive the boat through the narrow lane of clear water, I headed to the right.

The significance of the shouts of warning and the excited gesticulations on both steamer and lock-side come home to me too late to make it possible to change my course. The steamer bumped sharply against the left wall just as had been intended, and then began swingly slowly across against the opposite side. This, working out quite as planned, left me the open passage on the left. Unfortunately, however, as a consequence of my failure to understand the maneuver, I was already well down inside the rapidly closing gap between the port side of the steamer and the righthand wall.

Sensing instantly that twice the speed I could make with

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By Water Ways to Gotham

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oars would not carry the boat clear before the jaws of the closing vice clamped together, I slammed my tilted motor back into the water and spun the flywheel with almost the same motion. The thing was really too easy after all, I told myself. But when a half dozen savage turns of the wheels had failed to bring even an answering sputter, it began to look as though that optimistic verdict would have to be revised—that, in newspaper parlance, we were about to go to press. At this juncture, fortunately, it broke in upon by befuddled brain that the engine might act better with a little gasoline. An eager burst of power was the response to the next turn, and ten seconds later the boat drove out into the open canal,, missing the bump of the port quarter of the steamer against the concrete wall by a comfortable three feet.

From the way the skipper of the freighter was shaking his fist as he leaned out and looked back from the bridge, I was inclined to think he was swearing—and very volubly. Neither would the skipper have been far wrong had he interpreted my own fluent gestures in the same way. Yet neither of us, nor yet the thoroughly well-intentioned lockmaster, was greatly to blame. Like the incident of the previous evening in the lock above, it was just one of the things that is likely to happen at any time to the small craft that tries to rush its progress among big ones, especially in and about locks. Even at the expense of disclosing my own rattle-headedness, it will have been worth while setting down what happened in some detail if only it will have the effect of making the next man think twice and take his time in working through locks where large ships and barkes are being handled.

Running with a howling gale at my back, I dropped down two locks, passed through the attractive town of Cornwall, and finally descended by a double flight to the quiet river below the last of the Long Sault. Navigation was comforatble enough until a broadening of the river to the proportions of a lake gave wind and waves a full sweep across the buoyed steamer channel, which was some miles from the northern shore. For a while I kept company with a slow down-bound freighter, the crew of which appeared to be deriving infinite amusement from my efforts to steer and at the same time bail out water faster than it came in. Finally, wet, chilled and weary, I gave up the fight and ran over the lee of a marshy island to make camp for the night.

Not anxious to chance any more rapids while the wind continued, I was quite willing the next morning to take advantage of the locks and canals which avoid the rough water at Couteau, Split Rock, Cedar and the Cascades. Only the latter, so far as I have been able to gather since, demand especially careful running. A cross-country hike which I made from the canal in the hope of getting a look at them came to an end in a very dirty little French-Canadian village, with the Cascades no more than a blur of white and green in the distance.

Dropping down through the last flight of locks to the wide expanse of Lake St. Louis, I was hailed from the bank by an officious French-Canadian with what was rather nearer a demand than a request for a passage across to Lachine. The road was a very roundabout one, he said, and there was no car available anyhow. As he was an engineer on the Government dredge, he knew Lake St. Louis like the palm of his hand. If I would take him along as passenger he would be only too glad to act as pilot and keep me from getting out of the channel. All this in a voluble stream which appeared to assay about ninety-nine per cent French-Canadian *patois* and one per cent English.

Hardly had we started than it became evident that the pilotage I was to receive was to take the form of keeping my tiny craft, with its ten or twelve inches of draught, to the buoyed steamer channel dredged to accommodate ocean-going craft drawing something like twenty feet. With the chart showing more water than I needed right down the direct course to where the distant domes of Lachine were sparkling in the light of the declining sun, I hardly felt it worth while to follow the long, circuitous course of the steamers.

My passenger's preference for the main channel was doubtless due to the fact that the shorter, steeper waves of the shallows were more splashy, and so calculated to do more damage to a newly waxed moustache and a comparatively recently laundried shirt and collar and a perfume saturated muffler of gaudy hue. Possibly I would have been inclined to make the passage as dry a one as was compatible with reasonable directness had not the self-appointed pilot, arrogating to himself the prerogatives of a real one, grabbed

(*Continued on page* 126)

Performance–
that wins satisfaction and holds it

YACHT and cruiser owners who rely on the Johnson for shore-boat power get a *real* thrill at this motor's wonderful performance; its responsiveness—its flexibility—its power to maneuver against a head wind or a wind on the quarter. For every condition of wind, water or speed a Johnson *Light Single* or *Light Twin* offers the ideal "go between" astern of dinghy or tender.

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Only a Johnson gives you this feature. The easy start—the easy control—the wonderful maneuvering ability of a Johnson—inspires you with a feeling of complete satisfaction the very first time you operate one. Any Johnson dealer will gladly let you take one for a trial. Ask about the deferred payment plan.

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The light weight, compact construction of a Johnson makes it the most convenient outboard for stowing below deck.

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On his 1925 expedition into the Arctic, Capt. Donald MacMillan took six Johnson *Light Twins*. "They stood the gaff of severe Arctic temperatures and sure were marvels in performance", says MacMillan. His 1926 trip will include several *Big Twins* along with the motors he had previously.

Your copy of "The Guide to Waterways Travel" is ready. Just mail coupon at bottom of page.

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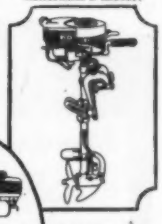
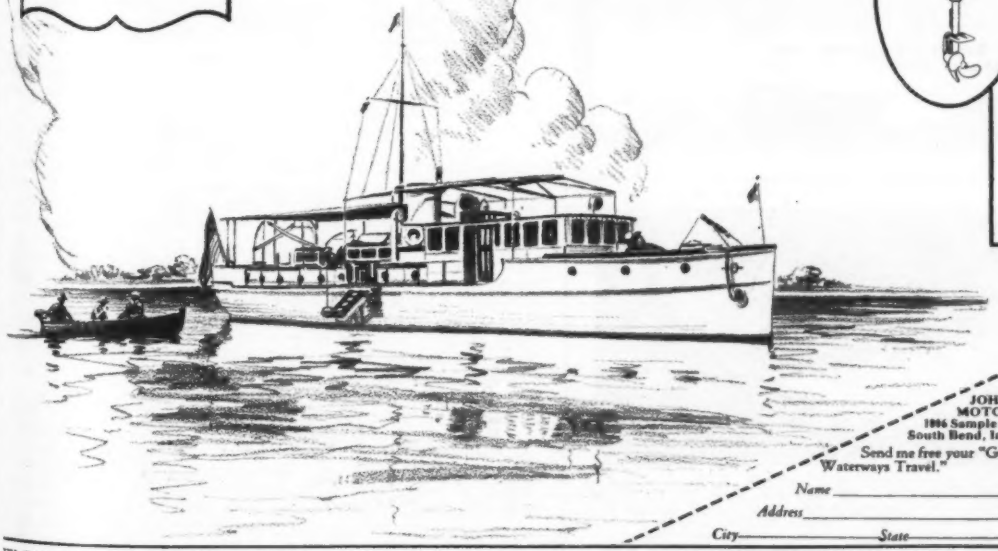
Johnson Light Single (below) 1½ h.p. Weighs 26 pounds. Ideal fisherman's motor.



Johnson Light Twin (at side) 2½ h. p. Weighs 36 pounds. Speed 2 to 9 m. p. h.

Johnson Big Twin Weighs 86 pounds. 6 h.p. Speed 12 to 16 m. p. h.



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WORLD'S LARGEST MANUFACTURERS OF OUTBOARD MOTORS

By Water Ways to Gotham

(*Continued from page* 124)

the tiller-lines from my hands and started to put the boat outside of a buoy inside of which I was about to cut.

Not being a good enough Christian to turn the other cheek in the case of so flagrant a case of mutiny on the high seas, I firmly and not too gently recovered the tiller-ropes and headed the boat straight for Lachine. Spray began coming over in showers, and, when I took especial pains to contrive it, solid green water. At the mutineer's first protest I handed him the bailing bucket, and it took good lively work with that awkward collapsible canvas bag to keep the water below his patent-leather shoe-tops. Had I been alone, indeed, I would have been glad enough to slow down when we ran into the cross-tumble of waves where the brown-black flood of the Ottawa came pouring into the blue-green current of the St. Lawrence. But discipline, and the constantly improving bailing technique of my very humble and willing deck-hand made it practicable to slash right on through to the finish.

The dripping, drowned-rat figure which oozed up out of my boat onto the Lachine dock appeared to be muttering to himself in staccato *patois*. Among the several words directed toward me as he made off there was not one which under even the most liberal interpretation could have been construed as sounding like *"merci m'sieu."*

Lachine is an up-river suburb of Montreal. It was founded by La Salle, but did not receive its present name until that restless young explorer came back from a trip down the Ohio which—from accounts given him by the Indians—he had hoped would lead him to the western ocean and so to the Orient. And when he came back to Montreal after having reached only the falls at the present site of Louisville instead of the Pacific and the China of his dreams, the scoffers in derision, gave to his post the name of La Chine. The little town was the scene of an Iroquois massacre in 1689, when over two hundred French were killed and half that numbered carried off as captives.

A quickening current in the narrowing river as I approached the entrance to Lachine Canal brought renewed temptation to try to find my way down by the natural channel. The fact that the forty-five feet of drop was distributed over a considerable distance indicated that there could not be bad water for more than a short distance, if at all. Remembering my lesson at the Long Sault, however, I finally decided against the diversion on the ground that the lateness of the hour would make it impossible to scout out a channel.

Subsequently I found that there was a comparatively easy course down the south side of the river. A fortnight later, on my way to western Canada from New York, Douglas Hains of the Canadian Pacific Railway, with a friend by the name of Lecoffey as bow paddler, took me down this side of Lachine as a passenger. The run was an impromptu one, arranged over the phone on a few minutes' notice. Thanks to skillful handling, most of the wetting we received came from water leaking in through the bottom of the old canoe we had borrowed for the occasion from the guide, Fred Beauvais, who lived near the head of the rapid. My own boat, half as well piloted, should have made a dry run of it.

That the main channel of Lachine is a risky place to take an open canoe was demonstrated a few months later, when Mr. Hains, trying to run through with Beauvais, was upset and very nearly drowned.

On starting up below the upper lock of the Lachine Canal, a reluctant response from the engine was quickly diagnosed as due to a weakened battery. A few moments computation revealed that the scarred and battered Eveready Columbia Hot Shot which I replaced with a new one here had been in use during all of the 1,400 miles or more I had covered since starting How much is expected from one of these serviceable little boxes I have never learned, but this performance—especially as it was made in almost continuous running, with no chance for the battery to rest and recuperate—struck me as rather remarkable. Trying the same battery on the Hudson a week later quite out of curiosity, I had the further surprise of finding that it had picked up enough strength during its lay-off to run the motor for several hours without a miss.

As the Lachine Canal runs through the industrial section of Montreal, there is an almost interminable succession of draw-bridges to be opened for a craft much larger in size than a row-boat. Able, fortunately, to run under most of these, I made rapid progress down the busy waterway. Steamers, hulks and barges were waiting at every lock, but these being in pairs, greatly facilitated the movement of the very heavy traffic. Busy as they were, the lock-hands proved

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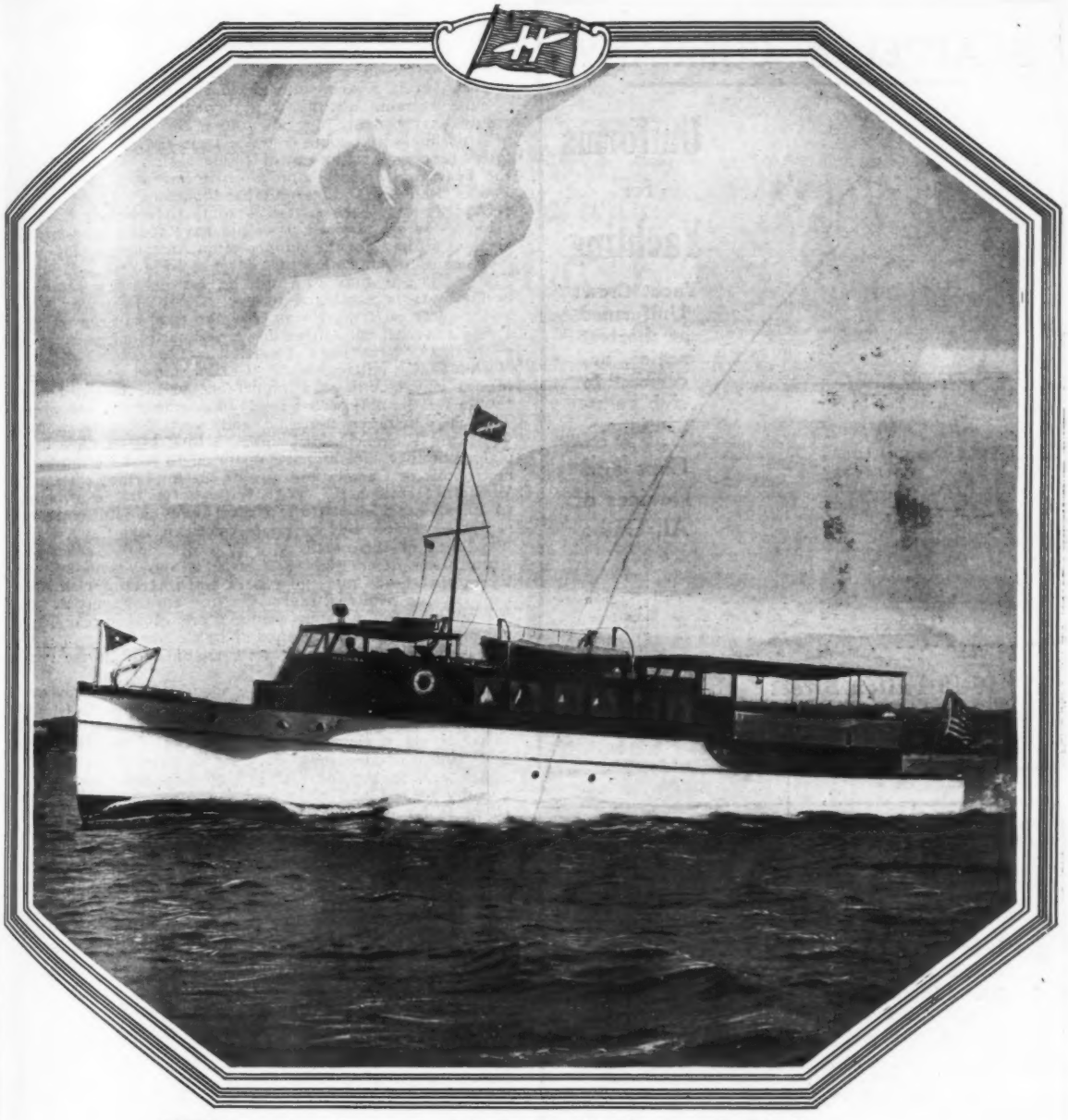

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The two 550 H.P. Typhoons weigh less than many marine engines of one-third their H.P. High power and low weight are controlling characteristics for speed in any type of yacht.

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WRIGHT TYPHOON MARINE ENGINE

By Water Ways to Gotham

(*Continued from page* 126)

no less courteous and considerate than their mates of the upper river in shoving me ahead as opportunity offered.

Since running all the way through the canal the canal would have brought me out among the docks of the trans-atlantic liners and some distance from the middle of town, I found moorings at the end of a long basin running up toward the heart of the city almost on a line with the Canadian Pacific Railway station and headquarters. Lined on both sides with coal barges, it was some time before I found a place to tie up. Indeed, I should have found no practicable berth at all had not the skipper of an American motor cruiser invited me to moor alongside his fine little craft. Her beautiful mahogany hull was built by Purdy, and a son of the builder was in command of her. With the owner temporarily away on tour, I was only too glad to accept Captain Purdy's invitation to shake down on board for the day or two of my stay.

The Indian village which Cartier found at the base of Mount Royal owned its importance to the fact that it was situated at the main cross-roads of northeastern water-travel. The St. Lawrence ran east and west, the Ottawa north, while the Richelieu, forty miles below, led to Lake Champlain. Similar factors have operated to make Montreal the metropolis of Canada and one of the important cities of the Western Hemisphere. With water-borne traffic plying east to Europe and west to the Great Lakes, it is also the main radial center of the principal American and Canadian railway lines of the northeast. With its British solidity and French temperamentality, I know of no city on the continent that holds more of charm and interest for an American. It was with real regret that my limited schedule forced me on my way without seeing more of Montreal than its colorful streets and the incomparable panorama of spreading forests and sprawling river-channels from the summit of Mount Royal.

Resuming my voyage on the second day after my arrival in Montreal, I ran on through the Lachine Canal to be locked back into the St. Lawrence at a basin flanked by towering grain elevators and the docks of the ocean liners. For a mile or two the swift run of water from the tail of Lachine Rapids made fast going; then the river expanded broadly to left and right and I was soon far from either shore as I ran on down the buoyed channel of the overseas steamers. On the chart this wide reach of open water was marked Lake St. Peter, from which I recognized it as the famous *Lac St. Pierre* of song and story, upon which, among other epic happenings, the *"Julie Plante"* had come to grief. One of Drummond's priceless *habitants* tells the story.

"On wan dark night on Lac St. Pierre,
De win' she blow, blow, blow
An' de crew of de wood scow Julie Plante
Got scar't an' run below—
For de win' she blow lak hurricane;
Bomeby she blow some more,
An' de scow bus' up on Lac St. Pierre
Wan arpent from de shore."

With the wind blowing from nor'-eas'-wes', as well as from de sout, the captain, crew and the cook whose

"..... name was Rosie,
She come from Montreal,
Was chamber maid on large barge,
On de Grande Lachine Canal,"

were "corpses on de shore" before morning broke.

From which was drawn the following incontestably valid moral:

"Now all good wood-scow sailor man
Tak' warning by dat storm
An' go an' marry some nice French girl
An leev on wan beeg farm.
De win' can blow lak hurricane
An' spose she blow some more,
You can't drown on Lac St. Pierre
So long you stay on shore."

From the total absence of wood-scows on Lake St. Peter, coupled with the hundreds of picturesque little farms planted thickly along the southern shore, I was strongly inclined to the belief that this conservative advice had been followed to the letter.

Running until the river grew dark with purple shadows, I landed at twilight on the gently sloping beach below the farm of the keeper of the nearby light. The whole family, including mother and daughters, came swarming down to drag my boat back above the devastating wash of passing steamers. Then the kindly folk set me out a bread-and-milk supper, entertained me until midnight with stories of their

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By Water Ways to Gotham

(*Continued from page* 128)

voyaging fathers and grandfathers, and finally turned out at daylight to put the boat back in the river again and speed me on my way.

Your *habitant*, while inclined to be shy and even suspicious of strangers, becomes a very confiding and likable soul on closer acquaintance. The British Canadians who know him best have a great affection for him. Transient visitors rarely take to the *habitant*, however, for in his very dirty towns and villages his worst goods are in his shop windows. Indifference to filth and a dislike of modern sanitation are, of course, legacies from his overseas ancestors.

At beautiful and somnolent old Sorel I came to the town which guarded the St. Lawrence end of the historic Richelieu-Lake Champlain route during the troublous years of fighting of the eighteenth century. As the main waterway between the warring French and British colonies, the Grand Pass was fought for from end to end during the French and Indian War and the Revolution, just as the Indians of the north and south had fought to control it for many centuries previously. The bitterest struggles were for the strategic points at the head of Lake Champlain—but every school-boy knows the story of how Ethan Allen and his Green Mountain Boys took Ticonderoga and of the capture of Burgoyne and his invading army after he had fought his way down the Grand Pass to the headwaters of the Hudson on a march that was to cut off New England from the rest of the revolting colonies.

Running past the long line of rotting old stern-wheelers moored just inside the mouth of the Richelieu, I began to ascend a tranquilly flowing stream which sparkled in the sunshine as it wound off to the south between wooded hills and the nestling farms of the *habitants*. Sunshine and tranquility—doubly grateful after the Labradoreon gale which had buffeted me all the way down the St. Lawrence—lasted about three hours, or just long enough for an infernally black dome of clouds to roll up from the south and begin a systematic and methodical attempt to sluice the valley of the Richelieu into the St. Lawrence.

Rounding a sharp bend, I opened up a long reach of river with the forefront of the storm charging down toward me full tilt. Wind-torn nimbus and driving sheets of rain I had expected to see, but what set the hair of my head fairly standing on end was the evanescent vision of what appeared to be a lightning dazzled wall of water in the act of being lifted bodily and flung forward by the titanic might of what could be nothing less than a full-grown cyclone.

Four years previously I had been tossed on the bosom of a baby cyclone encountered on the lower Yellowstone, but even that incipient twister—though it had blown barns and trees flat before my eyes—had not had the power to stand the river up on end and push it ahead like an advancing barrage. Ready enough to purchase immunity from drowning, by following the *habitant's* admonition and "staying on de shore" (if not of going to the length of marrying "some nice French girl and leeving on wan beeg farm"), I turned and headed for the bank.

Shutting off the motor as the propeller churned soft mud, I jumped overboard with the painter and carried it to the nearest tree. On my way back for the stern-line I stole a glance over my shoulder to note the progress of the oncoming Juggernaut of the storm. Driven by spinning gusts of tunnelling air, the first big drops of rain were just rat-a-tat-ing onto the canvas spray-hood, but the onrushing wall of up-ended river appeared to have lagged behind. There was still time to study the unaccountable phenomenon through my glasses. Yet the first squint through the revealing binoculars confirmed something of my first snap-shot judgment. It was a wall of tumbling water, surely enough, but hardly an advancing one. It's funny what an excited imagination will conjure out of the sheet of water falling over a dam, especially when half obscured by the curtain of an oncoming storm. Navigating with only a small-scale sheet of the Canadian Geological Survey, I had failed to note that I had been nearing the works of the lower locks of the Richelieu.

Banging on through squalls which were really only the skirmishing vanguard of the main storm, I ran on along the foot of the locks. As crude as picturesque, these must have been among the first works of their kind on the continent. As in all old-type locks, the in-flow of water was very torrential, making the careful mooring of a small boat desirable to minimize bumpings and the risk of a possible upset. The lock hands were very friendly, as were also a bevy of priests who, with many tiltings of mugs, were holding high revel in the shelter of a gnarled old elm on the island cut off from the river by the canal.

(*Continued on page* 134)

Advertising Index will be found on page 186

"Baby Dolphin" in Foreground; Dolphin Behind

"Baby Dolphin"—*A Show Hit*

AT THREE national boat shows—New York, Detroit, Baltimore—the "Baby Dolphin", newest product of Hackercraft, scored a decided hit.

Boat lovers and yachtsmen frankly expressed surprise over its refinements, seaworthiness and, particularly, its price. The "Dolphin" too, proved a popular exhibit, with its greater power and speed.

Both Dolphins are built of Honduras mahogany with *double* planked bottoms, full length engine timbers, copper and brass fastenings—salt water equipped.

1926 Prices

BABY DOLPHIN

21' 10" x 5' 10", Double Cockpit, Aft Control, 7 Pass., Speeds 23 to 37 mi., Motor Equipment as follows:

Continental-Van Blerck No. 250	$2475
Scripps F-4 Marine	2595
Scripps F-6 Marine	2995
Scripps F-6 Junior Gold Cup	3095

DOLPHIN

25' 10" x 6' 6", Double Cockpit, Forward Control, 10 Pass., Speeds 30 to 38 Mi., Motor Equipment as Follows:

Scripps F-6 Marine	$3900
Scripps F-6 Junior Gold Cup	3975
Scripps G-6 Marine	4625

You will want your boat without fail when spring arrives, so order it early to insure delivery in ample time.

New Agency Connections

Announced for the Benefit of Boat Buyers in neighboring localities.

NEW ENGLAND STATES—
Walter E. Moreton Corp.
1045 Commonwealth Avenue, Boston

MARYLAND—
Fred'k Read Strow
308 E. Lombard St., Baltimore, Md.

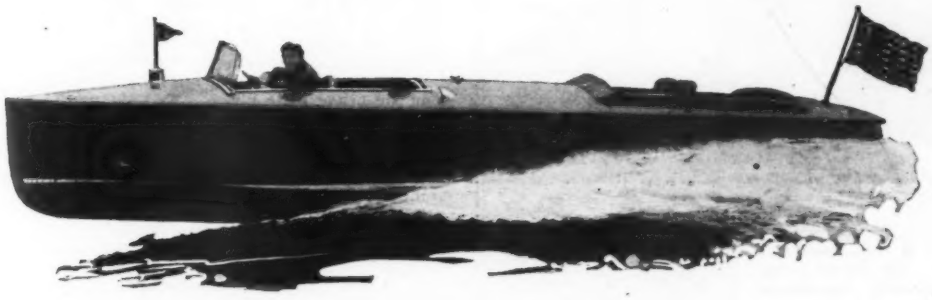
NEW YORK AND ENVIRONS—
Belle Isle Boat & Eng. Co.
Suite 1210, 393 Seventh Avenue, New York, N. Y.

MIAMI, FLA.—
Clement Amory
118 North Bay Shore Drive

HACKER and FERMANN
INCORPORATED
DISTRIBUTORS
Sixty-three Hundred E. Jefferson
DETROIT

Advertising Index will be found on page 186

Everything That You Want



—these two new Dunphy creations give you everything that you want—pride of ownership included. They provide all the pleasures of motor boating at its best.

The New Dunphy 26 Foot Runabout

Measures up to the highest standards throughout. Roomy cockpit forward with two leather upholstered seats. Has practical windshield in front. Steering wheel and all controls are operated from the forward seat. The rear cockpit has one leather upholstered seat and two wicker chairs. Ample arrangements for five passengers in each cockpit. The hull is double-decked mahogany, brass and copper fastened.

Powered with 6 Cylinder 100 H.P. Marine Motor. Makes better than 30 miles per hour—and on special order equipped to do 45 miles guaranteed. Motor with electric starter installed amidship under flush hatches.

$3,200 F.O.B. Eau Claire

The New Dunphy Sand Dab

Everybody likes the Sand Dab. Shallow draft tunnel stern. Beaches anywhere, the propellor is protected. Draws only 11 inches. Gets you anywhere you want to go.

Length—18 feet. Room for nine passengers. Equipped with 4 Cylinder 15 H.P. Universal Motor, with electric starter. Makes 15 miles per hour. Hull is cedar planked, brass and copper fastened. Complete in every way.

$1,125 F.O.B. Eau Claire

Dunphy has been famous for boats for more than forty years. All types of motor boats, outboard motor boats, canoes, and row boats are included in the Dunphy line. Write for free, illustrated catalog that gives complete information. Or if you desire a special purpose craft, tell us your needs. For many years we have designed and built boats to owners' requirements and are equipped to serve you to your entire satisfaction.

A few territories open for progressive representatives.

Dunphy Boat Mfg. Co.

Dept. C 3 Eau Claire, Wis.

DUNPHY

"famous for boats for forty years!"

By Water Ways to Gotham

(*Continued from page* 130)

Scarcely was I out into the narrow lake above the dam than the storm, having cleared the way with its skirmishing squalls, settled down to a sustained onslaught. Seldom have I seen fiercer rain short of a real cloudburst. Blown almost on a dead level, it struck the spray-hood and poured over into the boat in solid streams. Sheering became more luck than anything else, for the least corner of an eye cocked under the edge of my sou'wester was instantly blinded with flying spray. Resolving in pure bravado to stick it out as long as my motor would, I let myself in for a full day's run. For the brave little kicker was popping away just as merrily when I stopped for want of light at the foot of Lake Chambly as it had been in the warm sunlight of the morning.

As a consequence of passing through it in so violent a storm, my surviving mental picture of what is said to be some of the finest river scenery in eastern Canada is of little more than a dim gray tunnel streaked with flying water. Now and then I was aware of the waterfronts of villages, with ferry landings as their most salient features. Frequently dim figures waved ghostly arms at me through the mist. Once, where most of the river appeared to be diverted to a narrow chute between two of the piers of a railway bridge, I fought the swift current inch by inch, with a garrulous French watchman leaning out from an abutment and cheering with all his lungs.

Sleeping comfortably enough under the shelter of an extended spray-hood, I shoved off early in the morning and ran across the lake to where old Fort Chambly, built in 1664, marked the foot of the portage up the rapids of the Richelieu to Lake Champlain. The crumbling towers still reared defiantly against the sky-line as I drew near, and below them the rapids flashed white for a few moments in an unexpected but suddenly quenched burst of sunlight.

Shaded by overhanging trees of great age, the Chambly locks proved even more picturesquely beautiful than those through which I had passed below. Here I found the superintendent of the canal awaiting me with copies of the Montreal papers containing pictures of my departure. He had already phoned on to the bridge-tenders along the canal ahead to be standing by to facilitate my passage with quick action at their respective stations.

The quaint old town, straggling for a mile along the lake, proved quite as attractive at close range as from the water. One of the most interesting sights of a hurried hike to the fort and back was a real old-time blacksmith shop servicing nothing but horses and buggies and agricultural implements.

That my progress up the next ten miles of the winding canal partook something of the nature of a Roman Triumph was probably due to the fulsome outburst of the reporter of one of French papers of Montreal, who had insisted that about my voyage hung all the romance of the days of Cartier and La Salle and Champlain. Bunches of nosegays were tossed down by the bridge-keeper's children at almost every crossing, and one starry-eyed little miss made me come right against the bank to be crowned with a wreath of dandelions. Fain would I have lingered for a prolonged basking in this homage of a Caesar, but the imminent threat of a renewed outbreak of yesterday's storm bade me make mileage before the wind came. Hardest of all was it to have but to taste and remit, after the manner of kings, a stew of delectable savour brought, steaming from the stove, by a Juno-armed *Canadienne* who had waded ankle-deep in the water lillies to hand it over the gunwale.

Late that afternoon I crossed the American line near the foot of Lake Champlain. Two days more of boring through a translucent tunnel of rain and mist carried me to the head of the lake and through the New York State Barge Canal to the Hudson. Three days later I turned into the Harlem at Spuyten Duyvil, ran on to and through Hell Gate and finally across to Flushing.

That last twenty miles, through waters stiff with floating garbage, was one of the most trying runs of the voyage, especially on the motor which was submerged in muck to the cylinders all the way. Yet the merry popping that had never faltered from the time I left Milwaukee was still making its lusty music as I headed in to the landing of Bruno Beckard's boat-house under Flushing Bridge and shut off the gas. That same afternoon, so he wrote me later, Beckwith borrowed it to clamp on a canoe for a demonstration run—and sold a new Elto on the strength of it.

(*This installment brings to an end Mr. Freeman's somewhat abridged story of his outboard motor boat voyage from Lake Michigan to New York. The full story of this cruise will be brought out in book form by his publishers, Dodd, Mead Co., during the coming summer*).

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Outboard Racing Becomes Popular

(*Continued from page* 17)

For the purpose of advancing interest in Outboard Motors, in the holding of speed contests between boats propelled by such motors, in the improvements and perfecting of models, construction, designs and usefulness of both boats and motors, these rules are submitted to govern contests between boats propelled by outboard detachable motors.

1. The races shall be run in accordance with the general rules and regulations of the American Power Boat Association in force at the time of the race. The same rules and regulations will govern its items not here specifically provided for, that apply to other motor boat races. (This includes start, finish, use of signals, selection of winner by the point system, protests, etc.)

2. All contests exclusively for outboards shall be managed by a duly appointed Race Committee of five persons and such others as these five may appoint who shall have supervision of the actual conduct of the races and full authority to enforce the rules.

2a. Where outboard motor races are held in conjunction with other events, either a separate committeeman or an assistant to the Measurer shall be specifically assigned to supervision of the outboard events.

3. The course shall be not less than two nor more than six statute miles long, so laid out as to be visible the entire distance from the Committee stand. It shall be laid in waters free from dangerous obstructions and not in the path of commercial traffic.

4. Motors shall be divided into classes as follows:
Class A. Under 14 cu. ins. piston displacement.
Class B. 14 cu. ins. and under 20 cu. ins.
Class C. 20 cu. ins. and under 30 cu. ins.

5. Boats finishing first, second or third, in the class in which they belong (or are allowed) may enter the class above during the same regatta provided the classes race separately, but no motor shall be entered in a lower class than the one in which it belongs without the written consent of all the contestants in the lower class. Where all classes start together each motor shall be entered only in its class and the classes will be distinguished by racing numbers in different colors. Whenever practicable the various classes shall race separately.

6. Any make of outboard motor may be used, but not more than one motor may be used to operate one boat. Reboring the cylinders, increase of stroke or other internal changes to the motor are prohibited.

7. Where the use of standard motors is specified, parts may be removed but no parts may be added save those needed to avoid fire risk or to prevent cavitation and these shall not include any working parts.

7a. Where no specification of standard motors is made any addition to or modification or removal of parts will be permitted. Any changes from standard design, however, must be noted on or added to the entry blank.

8. There will be no restrictions as to weight, finish or dimension of hulls.

9. Since similar outfits make for better racing, the local committee may if conditions warrant it run similar boats as separate classes.

10. Nobody under 12 years of age shall be allowed in a competing boat. There will be no restriction as to the number of the crew. Each member of the crew must be an amateur as defined by the American Power Boat Association rules. Any person in the employ of a manufacturer of outboard motors is automatically disqualified.

11. Every competing boat must carry a hand fire extinguisher. Life preservers must be worn by all members of the crews. Failure to carry other equipment shall not be cause for disqualification. Entrants are expected to comply with the government regulations affecting their boats.

12. Boats shall race without handicap or time allowance.

13. The method of starting shall be designated by the Committee in charge of the contest.

14. Contestants must report to the Committee stand ten minutes before the scheduled start of a race and again immediately after crossing the finishing line.

15. A race scheduled to start at a given hour shall not be postponed for any cause, except in the interest of public safety, unless the consent of every entrant is first obtained.

16. Club membership is not required of outboard entries.

17. Boats and motors shall be available for examination by the Committee or authorized representative either the day before the first race or at least one hour before any race for the purpose of checking up the information required and furnished on the entry blank. No protest concerning any driver, boat or motor will be considered by the Race Committee, unless made in time for consideration in connection

(*Continued on page* 138)

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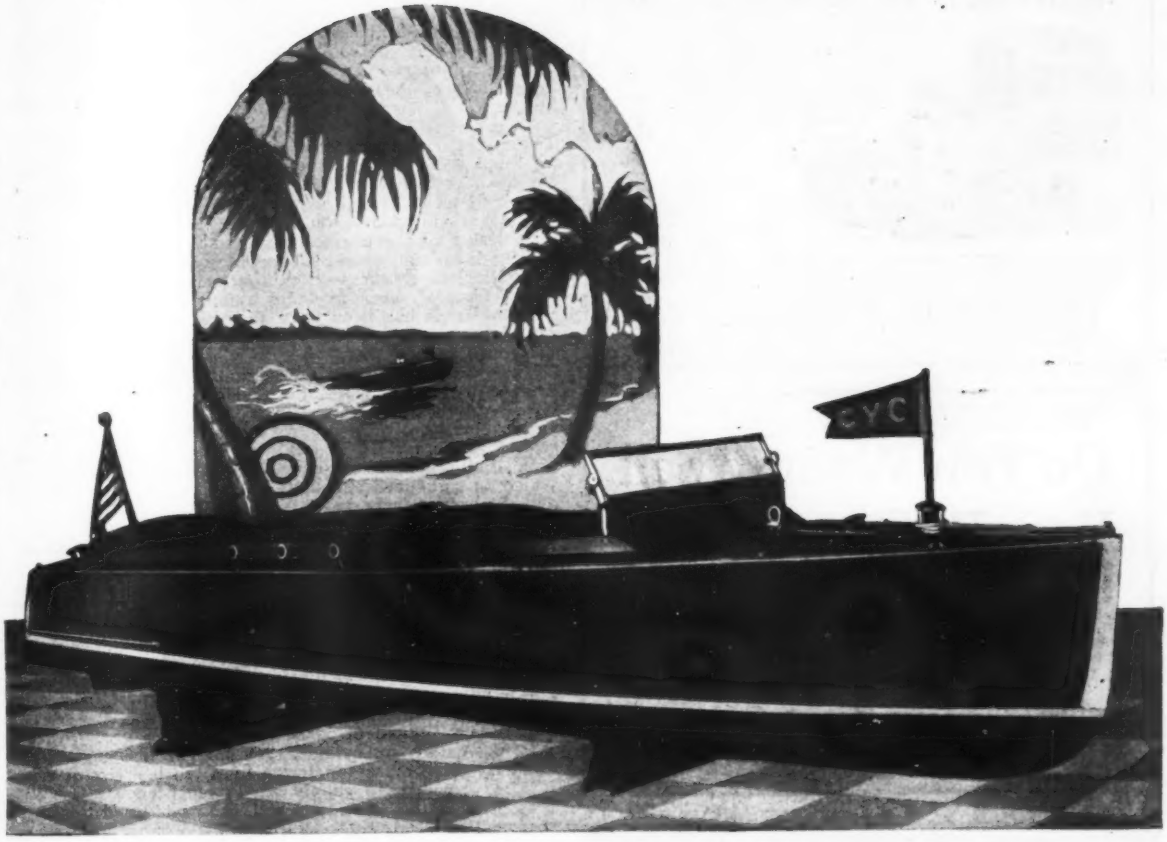

When a New Record was Established by the Kermath Chris-Craft

The 26-foot Chris-Craft is all mahogany with rubbed finish. Bottom is screw-fastened and double-planked for strength, sides single-planked battened seam construction. Windshield heavily reinforced and full tilting. Lifting rings fore and aft. Power is the Kermath 150-H. P. six-cylinder valve-in-head marine motor. Speeds, 38 to 40 miles per hour. Salt water equipt throughout.

POSSIBLY the greatest endorsement ever accorded any runabout was received by Chris-Craft during the week of the National Motor Boat Show. Boats of all makes, all sizes, all prices were on display. Buyers were offered an unusual opportunity to make comparisons and the result of their choice is significant. Twenty-eight bona fide orders [with deposits] were placed for Chris-Craft, making this all mahogany boat the outstanding "buy" in the field of fine runabouts.

Chris Smith & Sons Boat Co.

ALGONAC, MICHIGAN

$3500 F.O.B. Algonac

LARGEST BUILDERS OF FAST RUNABOUTS

A High Speed Diesel Yacht

(*Continued from page* 19)

Wherever the Shadow K may sail, her individuality in design will long be remembered by all who have the good fortune to observe her. The staunchness of the hull and the capabilities of the engines are reflected in the strength and reputation of their respective builders.

In order to drive a boat as big as this at high speed, the engine room is naturally a very important part of the ship. In Shadow K's engine room are installed two of the new six cylinder 500 h.p. Winton Diesel engines, which have a cylinder bore of 14 inches with a stroke of 15 inches. When turning at only 425 revolutions, they develop 500 h.p. each. The design of the engines has been very carefully watched to cut down the weight wherever possible. Such parts as covers for the crankcase enclosure and similar non-structural pieces have all been made of aluminum, in order to save weight. This has been done to such an extent that these machines weigh only about 80 pounds per h.p. or a total of about 20 tons.

The cylinder heads of the engines follow regular Winton design, in that duplicate inlet and exhaust valves are fitted. These valves are contained in separate cages and the duplication permits of larger valve areas than would be possible with a single valve. The exhaust from the rear of the engine discharges through a water cooled manifold, from which an eight inch exhaust pipe leads up through the stack and discharges there.

The lubrication of the engine is taken care of entirely by means of a pressure pump, driven from a separate shaft connected to the crankshaft. Oil and water pumps run at reduced speeds, and the oil supply is distributed at fifteen pounds pressure to all moving parts of the main engine. The air supply for starting and maneuvering purposes is furnished by a three stage compressor, directly driven from the main crankshaft. The compressor is separately lubricated by means of a mechanical lubricator, which permits of an accurate adjustment of the oil supply to this part, independent of the main engine.

Auxiliary equipment consists of three 7½ k.w. generating sets, driven by six cylinder Winton gasoline engines. An auxiliary air compressor driven by a ten h.p. electric motor, is also provided, to supply air in emergency. This compressor is of the same type and size as is fitted to some of the smaller Winton Diesel engines. A number of electric pumps are supplied for fuel transfer, and two American Machine & Foundry rotary bilge and fire pumps are carried for these services. The water supply for the ship is taken care of by a Delco water service pump, elcetrically driven. Abundant refrigerating capacity is installed on the boat since you will spend a good deal of her time in Florida. Three Frigidaire ice machines are carried in different parts of the boat, to take care of the requirements and since this type of machine supplies ice for table use in addition to it's refrigerating capacity, it is well adapted for this service. All these units are electrically driven.

Outboard Racing Becomes Popular

(*Continued from page* 136)

with the above examination. The committee has authority to withhold the result of any contest against which a protest has been registered.

18. Unless other provision is made, boats shall be assigned starting positions beginning at the pole in the order in which entries are received.

19. Not later than one day after the last race, the Race Committee shall post or issue a statement giving in regard to each race the following information listed in the order in which the entries finished: 1. The name of the driver. 2. The size, make and model of the boat. 3 The size and make of the motor. 4. The classification as to amateur, special, standard or non-standard motors. 5. The actual time, the miles per hour or both.

20. See Chapter II for General Racing Rules. (All competing boats must have racing numbers painted on the hull, see General Rule VI.)

Houston Club Growing

Commodore J. Weatherford, accompanied by Vice Commander D. F. Beaman, of the Houston Launch Club, Texas, stopped in to see us during the week of the Motor Boat Show, and informed us that a consolidation had been effected between the Houston Launch and the Houston Yacht clubs. The combined clubs are now planning a new club house on Bay Ridge nearby, which is to cost approximately $100,000. These clubs are members of the Gulf Yachting Association, and leaders in the yachting sport on the Gulf.

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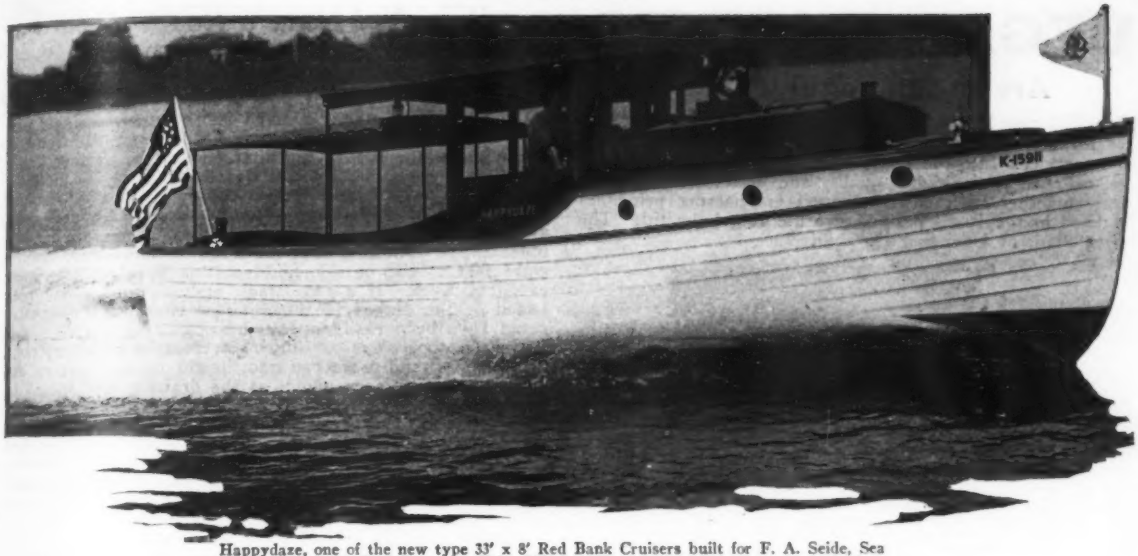

Happydaze, one of the new type 33' x 8' Red Bank Cruisers built for F. A. Seide, Sea Bright, N. J. A Hall-Scott 200 H.P. LM-6 marine engine gives her a speed of 25 miles per hour. The hull is lapstraked on the sides and has a double planked V-bottom.

RED BANK QUALITY

IN workmanship, materials and finish there is only one standard of quality in a Red Bank boat. That standard is recognized as being of the highest type. To protect such a standard it is imperative that each operation and all raw materials receive the careful scrutiny not only of expert mechanics and boat builders but also of an architect's trained eye. This exacting care marks the building of every Red Bank Cruiser whether of the standardized or custom type. That is why the appeal for Red Bank Cruisers is especially strong to yachtsmen who know boats from the keel up and from stem to stern. Red Bank boats are popular along the seaboard be cause they are dependable sea boats.

Let us send you, without obligation, details of our standardized boats or an estimate for building that boat of special design which you are interested in. Delivery can be made in time for the coming season.

RED BANK YACHT WORKS

Pierre A. Proal, President

Red Bank **New Jersey**

Telephone: Red Bank 840

This special Red Bank play and fishing boat is owned by Mr. E. I. Low, President of the Home Life Insurance Co., of New York. It is 24' in length and has a 5' 6" beam. The cabin accommodations include two full length berths and toilet. A Scripps F-6 furnishes the power and gives the boat a speed of 21 M.P.H.

Why Not Have a Radio Aboard

(Continued from page 35)

that you can squeeze in will be just that much more in your favor.

On one fifty footer, examined last summer, a single wire antenna was run from the mast head, about eighteen feet above the water-line, to the after end of the awning frame. A single tube regenerative set was stowed away in the cabin and with a pair of head phones the owner of this boat was able to listen to broadcast stations at least a hundred miles away and in some cases he had even heard them six hundred miles away! The length of the aerial did not exceed twenty-eight feet at the outside and yet this little set was doing excellent work. If a two stage audio amplifier had been added to the output of the detector circuit a loud-speaker could have been easily operated.

Height, too, plays an important part in receiving radio broadcasting and if we can gain height on the boat we can also gain length as a glance at the drawing will show. In this case, if the aerial were strung to the top of the mast only, the total length would be twenty-four feet, but if we run it up to the top-mast, the length is immediately increased to thirty feet, yet the top-mast is only five feet above the level of the main mast. The greater this height the greater the length of wire and consequently the greater the efficiency of the receiver.

Here is one point that must be cleared up right at the start of this discussion. Adding more wires to any receiving antenna will not correspondingly increase the efficiency, for a single wire antenna using one wire is not doubled in efficiency by adding another wire. In other words, one single wire twenty-five feet in length does not necessarily become a fifty foot aerial if we add another twenty-five foot length alongside the first one. For receiving purposes the single wire may generally be regarded as just as effective as the double, treble or quadruple wire aerial. One hundred feet of wire strung in one length is quite a different aerial from the one which may be made by taking that same hundred feet and stringing it back and forth in twenty-five foot lengths.

Since most cruisers are already equipped with masts of some description such masts may be made use of without much difficulty by stringing a wire from the bow, up to the top of the mast and then down to the stern or to the top of the awning at the stern. An insulator must be used at the bow and stern as well as at the mast-head and where the lead-in wire comes in through the deck, a regular deck insulator should be used. These insulators will not permit either electrical or water leaks if they are properly installed.

In order to increase the length as well as the height of this same aerial it may be desirable to rig up a light top-mast which should be arranged so that it may be raised or lowered at will. The pen and ink drawing shows one suggested method of accomplishing this. An ordinary track is secured to the after side of the main-mast with the other member attached to the forward side of the top-mast. A small sheave is secured to the top of the main-mast and through this a halyard is run to the bottom of the top-mast so that it may be easily raised and lowered.

The top-mast must be equipped with guy wires to keep it rigid and this is accomplished by arranging a spreader about half way up as shown. The aerial itself will act as a fore and aft guy wire, but means must be provided for keeping this member taut. This is done by using one of those large wooden deep sea fishing reels which may be attached to the awning frame at the stern and the stranded wire used in the aerial is wound up or reeled off as needed. Of course this wire is permitted to run freely through the insulator at the mast head and if the drag is used on the fishing reel, the top-mast may be raised into place at the same time keeping the aerial tight at all points of progress. Of course, since no insulator can be used in this end of the wire, it is necessary to mount the reel itself on an insulated base and a piece of bakelite or hard-rubber under the reel will do the trick nicely. The details in connection with this drawing of the mast will show how the component parts are put together.

The ground connection plays an important part in any radio installation and since water, and particularly salt water, makes an excellent radio ground it is not much of a trick to secure such a connection. However, in most cases, it has been found that not sufficient contact has been made, due to the limited area of the metallic surface below water.

The usual way is to fasten the ground wire from the radio set to either the engine itself or to the stuffing box where the connection is supposed to go out to the ground through the propeller and shaft. This, however, is not very effective as the surface is so limited. Another way is to make a wire

(Continued on page 142)

Why Not Have a Radio Aboard

(*Continued from page* 140)

fast to the stock of the rudder, if it is of metal, and while this is better, because the surface is larger, it is still below the point for full efficiency.

The best scheme of all is to install a metallic plate below the water line either on the hull or to the side of the deadwood. The larger this plate the better the ground and, of course, it should be made of some non-magnetic material such as zinc, copper or brass. Great care should be taken to see that the wire which connects to this is made fast solidly, for corrosion and vibration may do their work. Solder is not so good for this very reason as it will cause electrolysis and sooner or later the wire will come loose. The best way is to fasten the wire with a small binding post or better yet punch a dozen or so holes in the plate and weave the wire back and forth through them until you are certain that an absolutely tight connection is made.

With such equipment as this on even a thirty foot cruiser, quite presentable results should be had with even a small radio set. Before the boat goes overboard this spring, have the metal plate attached to the hull with a wire from it run up the side and in through a small opening just under the sheer molding. This wire may be let in flush with the wood and puttied over and painted in such a way that it is completely concealed.

Flag Etiquette in Canada

(*Continued from page* 30)

mentioned that where the yacht owner is a member of several clubs, it is incorrect to fly more than one Club Burgee at a time. The owner has the choice of selecting the particular flag he wishes to fly.

When the vessels become larger, and have two or more masts, the flag custom follows somewhat the example of the schooner, in that the Club Burgee is shown at the jack staff forward, with the owner's private signal on the mainmast. The Ensign, as in other cases, would be shown at the taff rail staff aft. The foremast would remain without its flag. In the event that the yacht owner is at the same time a flag officer in his club, he would replace his private signal with his flag officer's flag, during his term of office. Should he cruise with a club, of which he is a member, but not an officer, he would use his private signal and the Club Burgee of the Club with which he is cruising.

Where vessels are fitted with a yard on the mast, the flag positions will remain exactly as mentioned for the several different cases. The starboard yard would be used for code signal flags, the owner's absent flag, which is shown when he is not on board, and also would be used for the owner's meal flag, shown during daylight at such times when necessary. The guest flag, which is also shown on the starboard spreader, is used to indicate the fact that there are guests on board, during the owner's absence. The port spreader, or the port yard arm, on the foremast, would be used to display the meal pennant for the crew. In the event that a Canadian vessel wishes to show a courtesy to another country, for example, on a visit to United States waters, she would show at the mast head a courtesy flag, which would be the United States Ensign, in a smaller size than the Ensign of her own country.

Vessels registered in other lands when visiting Canadian waters adopt a similar courtesy, and show their usual club and private signals in their accepted places. They also show the National Ensign of their own country at the proper place for the Canadian Ensign specified. As a courtesy to Canada, she may fly the British Pilot Jack at the jack staff forward, or if the vessel is fitted with a mast, at the main mast head. A vessel owned by a citizen of a foreign country, which is not registered has no right to fly any National Ensign whatever. However, a courtesy is extended, which permits such vessel to fly the Canadian Red Ensign as heretofore provided. Such a vessel, however, should fly the Jack (not the Ensign) of the owner's country, in place of the British Pilot Jack.

No variation from the above is correct, and on festive occasions the ship may be dressed by using the flags of the signal code, provided they do not displace the position of the flags, which have their fixed place. All colors on boats are made at 8 A. M., and lowered at sunset, in the same way as on shore. Colors on boats are hoisted simultaneously, and lowered in the same way.

Flag positions on ship board occupy positions of varying importance, in a similar manner to a shore station, the order of importance being in the following order. First, the aftermost peak, and, or the Ensign staff. Next, the main truck

(*Continued on page* 144)

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GLOBE

MARINE ENGINE

Absolute Reliability

HIGH SPEED **500 H. P.** **2000 R. P. M.** **1500 LBS.**

Completely Enclosed


THE DETROIT NEWS, SUNDAY, DECEMBER 13, 1925

25 Years Ago this Week

From The Detroit News of December, 1900

DEC. 15.

ONE of the largest gasoline yachts on fresh water is now in course of construction at Oades' shipyard and is to be ready for launching by the opening of navigation. It is being built under the direction of Joseph Robarge, once foreman of Oades' but for some time past engaged in the ship-building business in New York City. Walter H. Oades, owner of the shipyard, and C. H. Lawrence, formerly owner of the burned yacht, Roberta, are each half owners of the new boat, the former supplying the hull and the latter the engine.

The new boat will be 66 feet keel, 11 feet beam and 5 feet deep, so it will be seen that she will be something of a whale among gasoline boats in these parts. She will be built essentially for comfort and her owners do not expect that she will make more than 12 miles an hour; but no expense will be spared in fitting up the interior with all the conveniences for long cruises. There will be cabins forward and aft, a private room fitted up in all the luxury of a parlor at home, kitchen, dining room and berths complete.

THE engine will be 35 horsepower, with four cylinders, manufactured at the Pennsylvania Iron Works and known as the Globe engine. The double engine will cost $2,600 alone and will be the largest engine of its kind ever run by gasoline. The company that [illegible] for a craft [illegible] place than a steam engine and [illegible] boat.

[illegible] gasoline engine will not be [illegible] ment inspection, and this [illegible] than steam for the p[illegible]

HIGHWAYS

Compare the 35 H. P. Globe of 1900 with the 500 H. P. Globe of 1926.

THE new Globe 12 cylinder V type, twin six marine engine is born of one of the oldest and most reliable gasoline engines ever built. Note the clipping from the Detroit News of 25 years ago. The Globe has every advantage ever devised for the perfection of engine performance and stands today as the last word in high speed marine motors.

Also Manufacturers of the New

CHRYSLER

The Marine Motor Without a Vibration Period

100 H. P. at 3400 R. P. M.

Six Cylinders, 300 cu. in. Piston Displacement

Weight 600 lbs.

JOHNSON MOTOR PRODUCTS, INC.

518-522 West 57th St.
New York, U. S. A.

Flag Etiquette in Canada

(*Continued from page* 142)

or masthead, followed by the fore truck or the foremast head. The mizzen truck or mizzen masthead is followed by the jack staff, as the least important.

In paying a compliment to a passing vessel, or on being passed by other vessels, the customary salutation afloat is by dipping the Ensign. All yachts and merchant vessels dip to British Men-of-War. The Ensign should not be dipped to foreign vessels, except in acknowledgment. It is the place of a vessel in foreign waters to pay the compliment first. When passing or being passed by foreign vessels, when entering or leaving a foreign port, or when at anchor in foreign waters, the National Ensign of the foreign country may be flown from the main truck if masted, or its Jack from the jack staff if the vessel is not masted.

When dressing ship on National holidays, and other occasions of celebration, any flags except National flags, may be flown from a dressing line, the proper lead for which is taut from the stem to the truck or trucks, and thence to the stern. Our National colors may be flown from the trucks, in addition to the Ensign at the peak and the Ensign staff.

Unregistered vessels in Canadian waters, which are not owned by British subjects, are not entitled to fly any National Ensign, as the National Ensign flown by a vessel signifies the nationality of a vessel, and not of the owner, and being an unregistered vessel, it has no nationality. Under the British Shipping Act, unregistered craft, of less than 15 tons burden, owned by British subjects, are recognized as British vessels.

As a courtesy, unregistered pleasure craft in Canadian waters, owned by citizens of foreign countries may fly the Canadian Red Ensign (but no other National Ensign) at the Ensign Staff. Such vessel properly should fly the Jack (not the Ensign) of the owner's country at the Jack staff.

There's Nothing to It

(*Continued from page* 33)

and its use; an instrument used by the navigator to determine angles. Some involves a knowledge of higher mathematics, or inspection of Bowditch tables; and some are so simple of solution as to be nothing but mental problems.

I believe, sincerely and honestly, that the motorist who turns motor boatman will find the subject of navigation so interesting a study that he will continue it far beyond the has to know stage. The purpose of these articles, however, is to give the motorist this has to know knowledge only; to give him the few points about the art of navigation that can be picked up easily and quickly and that will enable him to take his boat anywhere on inland waters with a feeling that he knows what he is doing—and how to do it! Therefore, the more complicated methods of fixing a ship's position are omitted.

Frequently, when cruising, it will be found of great assistance to know the exact distance of the boat from the shore. Assume a boat is running along the North Shore of Long Island on her way to Greenport. Her course is E ½ N. You, the skipper, observe from your chart that there is a danger spot called Orient Shoal, and marked by a black spar buoy with the number three on it. From your position you cannot pick up the spar buoy but you can see the Coast Guard Station at Rocky Point. You want to check your position; you want to be sure that you are going to give the shoal a wide berth.

Now you remember from your school days that the sides of any triangle, two angles of which are 45 degrees and one 90 degrees, must be equal. So you employ what is known as a Bow and Beam Bearing; defined by Bowditch as follows: "Where the first bearing is taken when the object (landmark) is broad on the bow (45 degrees from ahead) and the second when it is abeam (90 degrees from ahead) then the distance at second bearing and the distance abeam are identical and equal to the run between the bearings."

All of which means this: A-B is the shore line. C is an object on land. D is the first position of the boat. When it is here, a bearing is taken on C—the landmark bears at an angular difference of 45 degrees from the course of the boat. E is the second position of the boat—when the landmark is abeam, or 90 degrees from ahead. At D, when the observation is taken on the landmark, the patent log (speedometer) is read and it is read again when the boat is at E and the landmark abeam; the difference between the two readings, or the distance between D and E, is equal to the distance from shore when the boat is at E.

You want to check your position so as to give Orient Shoal a wide berth. Your course, remember, is E ½ N. So when

(*Continued on page* 148)

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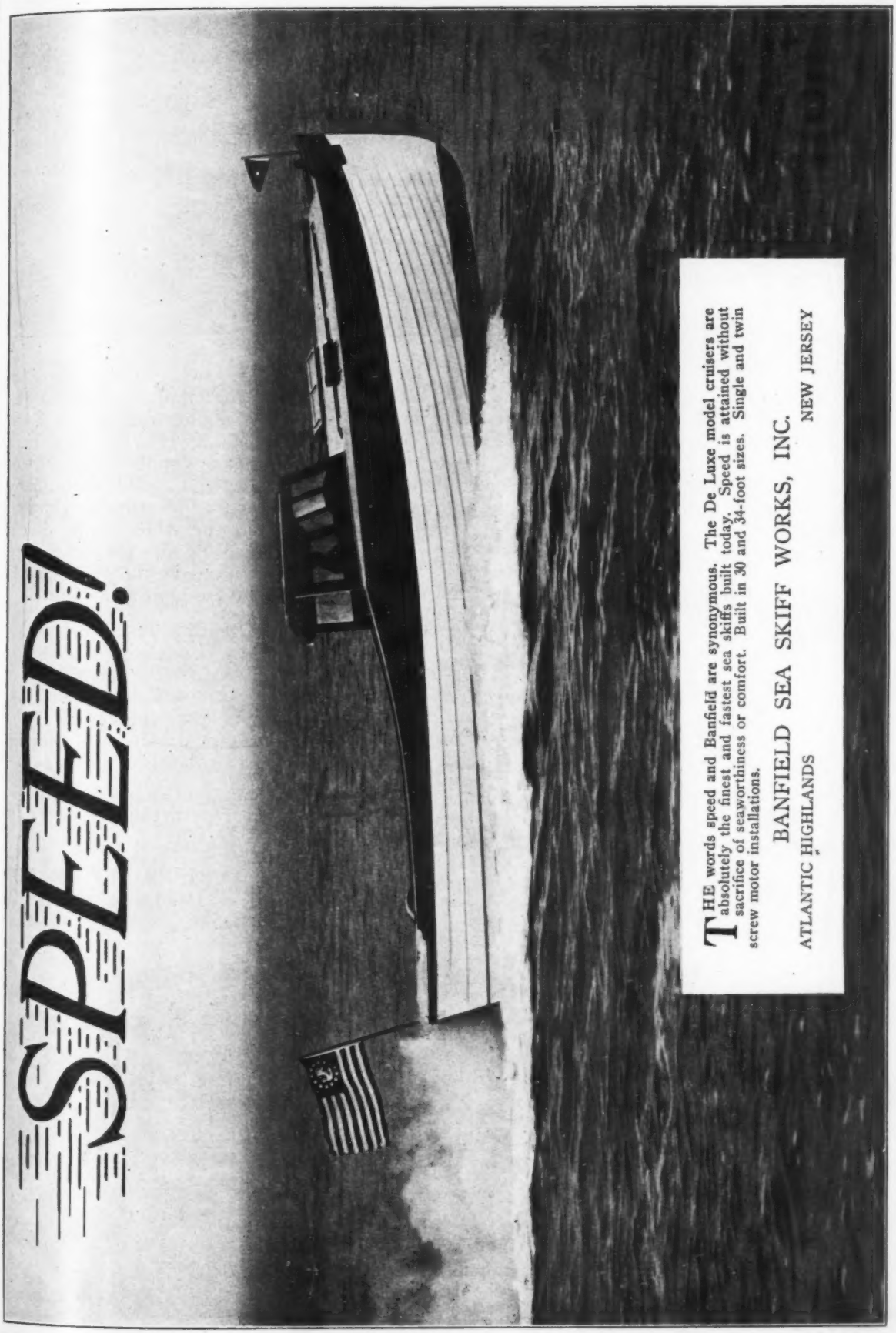
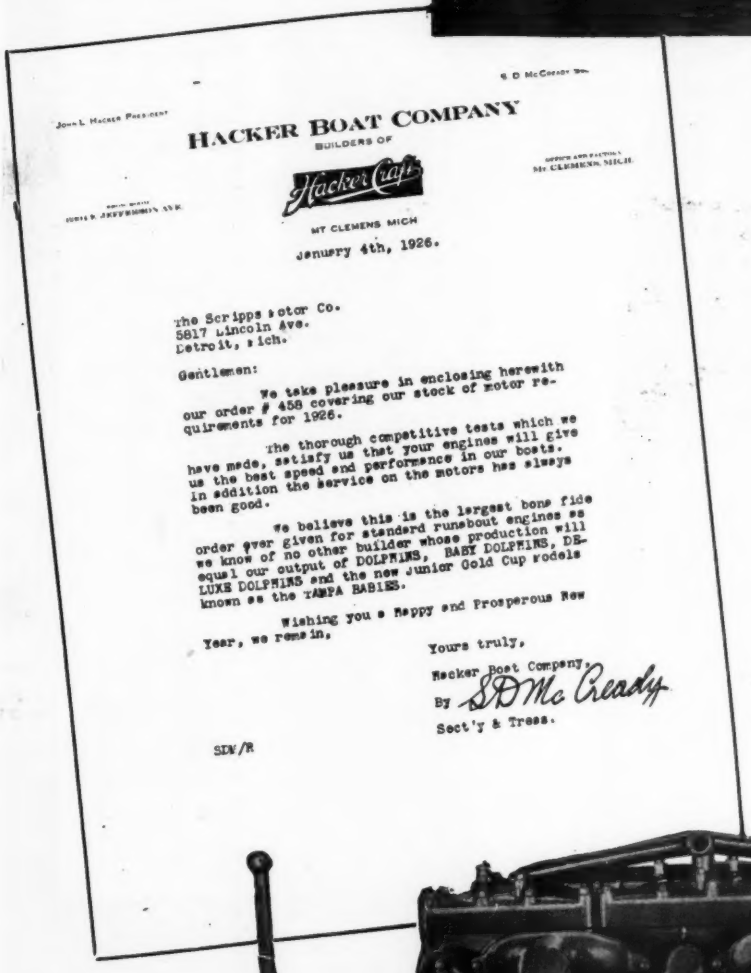

SPEED!
THE words speed and Banfield are synonymous. The De Luxe model cruisers are absolutely the finest and fastest sea skiffs built today. Speed is attained without sacrifice of seaworthiness or comfort. Built in 30 and 34-foot sizes. Single and twin screw motor installations.
BANFIELD SEA SKIFF WORKS, INC.
ATLANTIC HIGHLANDS NEW JERSEY

and in 1926, too, the Dolphin will be Scripps Powered



HACKER BOAT COMPANY
BUILDERS OF
Hacker Craft
MT CLEMENS MICH

January 4th, 1926.

The Scripps Motor Co.
5817 Lincoln Ave.
Detroit, Mich.

Gentlemen:

We take pleasure in enclosing herewith our order # 458 covering our stock of motor requirements for 1926.

The thorough competitive tests which we have made, satisfy us that your engines will give us the best speed and performance in our boats. In addition the service on the motors has always been good.

We believe this is the largest bona fide order ever given for standard runabout engines as we know of no other builder whose production will equal our output of DOLPHINS, BABY DOLPHINS, DELUXE DOLPHINS and the new Junior Gold Cup models known as the TAMPA BABIES.

Wishing you a Happy and Prosperous New Year, we remain,

Yours truly,
Hacker Boat Company,
By S D McCready
Sec'y & Treas.

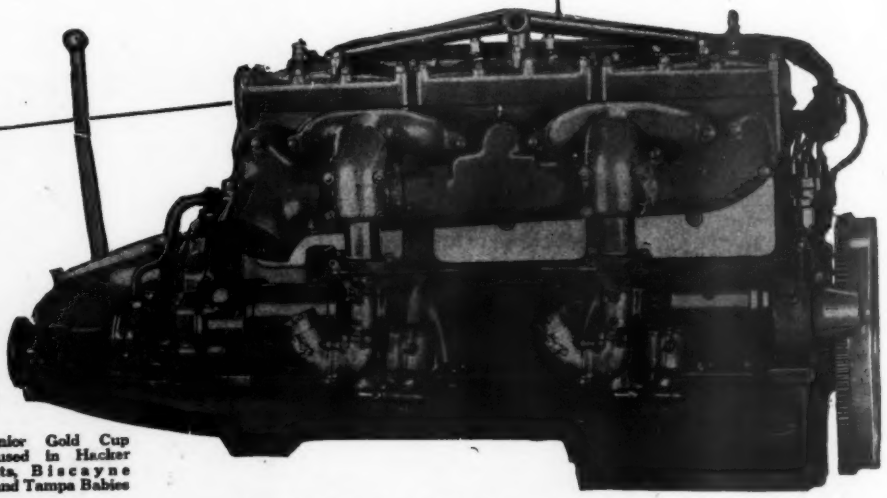
SDM/R

BEFORE placing their order for engines to power the 1926 Dolphin and Baby Dolphin Runabouts, the Hacker Boat Company conducted a series of competitive tests with many high grade marine engines to determine which make of engine would give the best service and speed in the 1926 models of the Dolphin Runabouts.

In these tests Scripps engines out-scored all others. And. so for another year Scripps F-4, F-6 and G-6 marine engines will be standard in the Dolphin Runabouts.

Sizes and models for almost every type of service from 10 H.P. to 150 H.P.

SCRIPPS MOTOR CO.
5819 Lincoln Avenue
Detroit Mich.



F-4 Junior Gold Cup Model used in Hacker Runabouts, Biscayne Babies and Tampa Babies

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There's Nothing to It

(*Continued from page* 144)

ine Coast Guard Station bears at 45 degrees from straight ahead, or bears SE ½ E from your boat, you read the patent log. Then you hold accurately to your course until the Coast Guard Station is abeam or bears S ½ E from your boat. You read the patent log again. The difference between the first reading and second is ½ mile—so you know that you are ½ mile from the Coast Guard Station. With your dividers you scale off that distance on your chart; and you observe that so long as you keep your course of E ½ N you are going to be perfectly safe from any danger the Shoal may present. If the check on your position by the Bow and Beam Bearing showed you were running only ¼ of a mile from the Coast Guard Station, you would have to alter the course slightly.

Of course, a spar buoy with the number three on it indicates the edge of this particular shoal; and under ordinary conditions, all that would be necessary would be to pick up the buoy with your glasses and then arrange your course so that you would pass it on your starboard. But sometimes the chart will indicate shoals or rocks that are not marked by buoys.

I am a great believer in knowing at all times the position of my boat. Then if a sudden rain comes up, and a good rain blankets one just as a fog does, or if I run into a fog, I know where I am—and can continue my course with assurance. One day last summer I made a cruise with a friend who is less cautious than I. On our return trip, late in the afternoon, we ran into a fog. He had been steering by landmarks entirely and not paying any attention to his compass course. Inside of twenty minutes he didn't know where he was. He thought he was just off Lloyds Point; but he didn't know. I want to *know* where I am.

To make easy the application of the bow and beam method of determining position, I have marks on Sea Drift as follows: Cut into the upper casing of the windshield, and at an angle of forty-five degrees from ahead, I have a small brass plate; then directly abeam of the wheelman's position or an angle of ninety degrees from straight ahead, is a second brass plate. When I want to take a bow and beam bearing, it is only necessary to get the land object, whatever it may be, directly under the forty-five degree plate, read the patent log, hold the course until the land object is in line with the ninety degree plate, read the log again and I have my result.

There is another method for determining position, when crossbearings are taken on two landmarks. Suppose A to be a church steeple; B a windmill. A bearing is taken on A and noted down; immediately after a second bearing is taken on B and both are then plotted on the chart. The intersection of the lines is the position of the boat. The distance from shore can then be scaled with the dividers. Caution must be exercised in taking these bearings, however, to see that the second is taken just as quickly as possible after the first.

We have discussed one method of establishing clearance of a danger point; a second method is: A ship is on the course. At E is a sunken rock or shoal which must be given suitable clearance. A is a landmark. Draw a line from A-D that will clear the danger. Obtain the direction from the compass rose. As the boat proceeds along her course take frequent observations on A. Now just so long as the compass directions A-C and A-B are to the right of the compass direction A-D, the boat will be free from danger.

In considering the bow and beam method of fixing the ship's position, we have said nothing about whether or not the magnetic north to which the compass points is used, or the geographic north. Refer now, please, to the compass rose on Chart 1213. The star indicates true or geographic North; the line with arrow indicates magnetic North. Study the compass rose and you will see that it is really two compasses; the outside rim being what we might term the true or geographic compass, the inside circles being the magnetic compass. In plotting a course, if you take your direction from the outer compass, you have true or geographic direction and must make the necessary correction, as explained in the Chapter Compass Errors, to obtain the magnetic direction. But if you take your direction from the inner compass, the magnetic compass, no correction is necessary as that direction is the magnetic direction. Therefore the bother and annoyance of calculating error due to variation can be eliminated. All courses are usually given as magnetic. It may be, however, that you will prefer to take your directions from the true compass and then allow for the error of variation. Experiment will prove which is easiest for you.

One factor in navigation that has not been discussed as yet, and which many times has to be taken into consideration, is that of tides.

We think of a tide as a flow of water; flood tide when it flows seaward. This flow, properly speaking, is *tidal current* while the vertical rise and fall is termed *tide*.

The following explanation of tides is quoted from *Astronomy for Everybody*, Simon Newcomb, L.L.D.: "All of us who live on the seashore know that there is a rise and fall of the ocean which in the general average occurs about three-quarters of an hour later every day, and which keeps pace with the apparent diurnal motion of the moon. That is to say, if it is high tide today when the moon is in a certain position in the heavens, it will be high tide when the moon is in or near that position day after day, month after month, and year after year. We have all heard that the moon produces these tides by its attraction on the ocean. We readily understand that when the moon is above any region its attraction tends to raise the waters in that region; but the circumstance that most perplexes those who are not expert in the subject is that there are two tides a day, high tide occurring not only under the moon, but on the side of the earth opposite the moon. The explanation of this is that the moon really attracts the earth itself as it does the water. It continually draws the entire earth and everything upon it toward itself. As it goes round the earth in its monthly course, it thus keeps up a continual motion of the latter. If it attracted every part of the earth equally, the ocean included,there would then be no tides and everything would go on on the earth's surface as if there were no attraction at all. But as the attraction is as the inverse square of the distance, the moon attracts the regions of the earth and oceans which are nearest to it more than the average, and those that are farthest from it less than the average.

To show the effect of these changes let A, C and H, be the three points on the earth attracted by the moon. Since the moon attracts C more than A it tends to pull C away from A and increase the distance between A and C. At the same time pulling H more than C it tends to increase the distance between H and C. If the whole earth was a fluid, the attraction of the moon would be simply to draw this fluid out into the form of an ellipsoid, of which the long diameter would be turned toward the moon. But the earth itself, being solid, cannot be drawn out into this shape, while the ocean, being fluid, is thus drawn out. The result is that we have high tides at the two ends of the ellipse into which the ocean is drawn, and low tides in the mid-region.

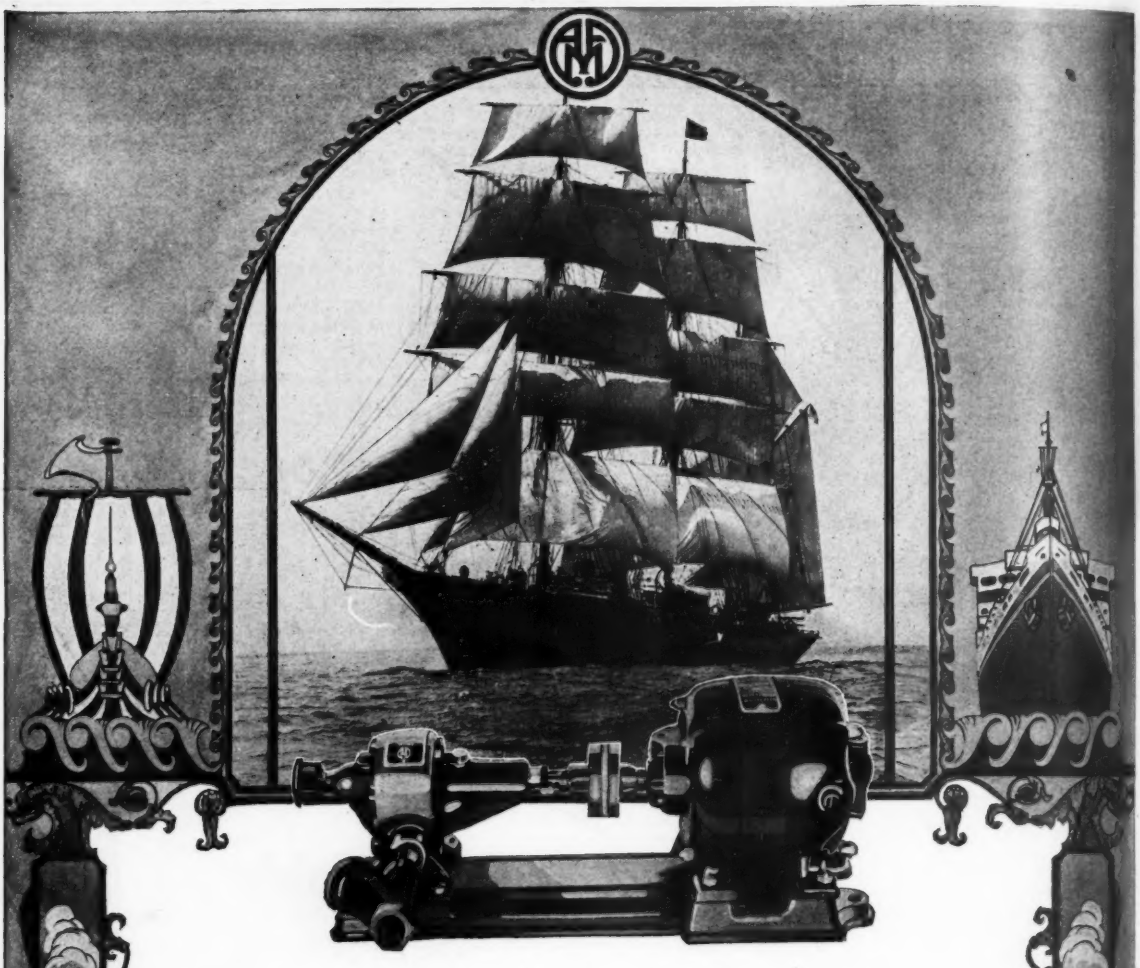
"The complete explanation of the subject requires a statement of the laws of motion which cannot be made here. I will, however, remark that if the attraction of the moon on the earth were always in the same direction, the two bodies would be drawn together in a few days. But owing to the revolution of the moon around the earth the direction of the pull is always changing, so that the earth is, in the course of a month, only drawn about three thousand miles from its mean position by the moon's pull.

"It might be supposed that if the moon produces the tides in this way we should always have high tide when the moon is on the meridian and low tide when the moon is on the horizon. But such is not the case, for two reasons. In the first place it takes time for the moon to draw the waters out into the form of an ellipsoid, and when it once gives them the motion necessary to keep this form, that motion keeps up after the moon has passed the meridian, just as a stone continues to rise after it has left the hand or a wave goes forward by the momentum of the water. The other cause is found in the interruption of the motion by the great continents. The tidal wave, as it is called, meeting a continent, spreads out in one direction or the other, according to the lay of the land, and may be a long time in passing from one point to another. Thus arise all sorts of irregularities in the tides when we compare those in different places.

"The sun produces a tide as well as the moon the two bodies unite their forces and cause the highest and lowest tides. These are familiar to all dwellers on the seacoast and are called *spring tides*. About the time of the first and last quarters the attraction of the sun opposes that of the moon and the tides do not rise so high or fall so low, and these are called *neap* tides."

The Government publishes a book *Tide Tables, Atlantic Coast*. This book gives the time (Eastern Standard Time) of high and low water at various ports along the Atlantic Coast, Long Island Sound, Hudson River, etc., etc., and for easy reference these are arranged in alphabetical order. In addition this guide gives Current Tables which indicate at

(*Continued on page* 152)



The Aloha—and AMF Pumps

COMMODORE Arthur Curtis James' beautiful yacht "Aloha", (illustrated above) with her glorious spread of canvas, reminiscent of earlier days—is nevertheless the most modern and luxurious of modern pleasure-craft. She is now being reconditioned and converted from steam to Diesel Drive at the yards of the Staten Island Ship Building Co., under the direction of Tams & King, naval architects and is being AMF Pump equipped from stem to stern. Complete AMF Pump equipment includes the following system:

Fresh Water, Fuel Oil, Lubricating Oil, Hot Water, Drinking Water, Salt Water, Ice Machine, Evaporator, Boiler Feed and Kerosene Pumps.

All Bronze, Bronze-fitted or Cast Iron

A Type for every Ship Afloat

AMF
Motor Driven Capstan

American Machine & Foundry Co.

5520 Second Avenue
Brooklyn, N.Y.

AMF
Hand Pump

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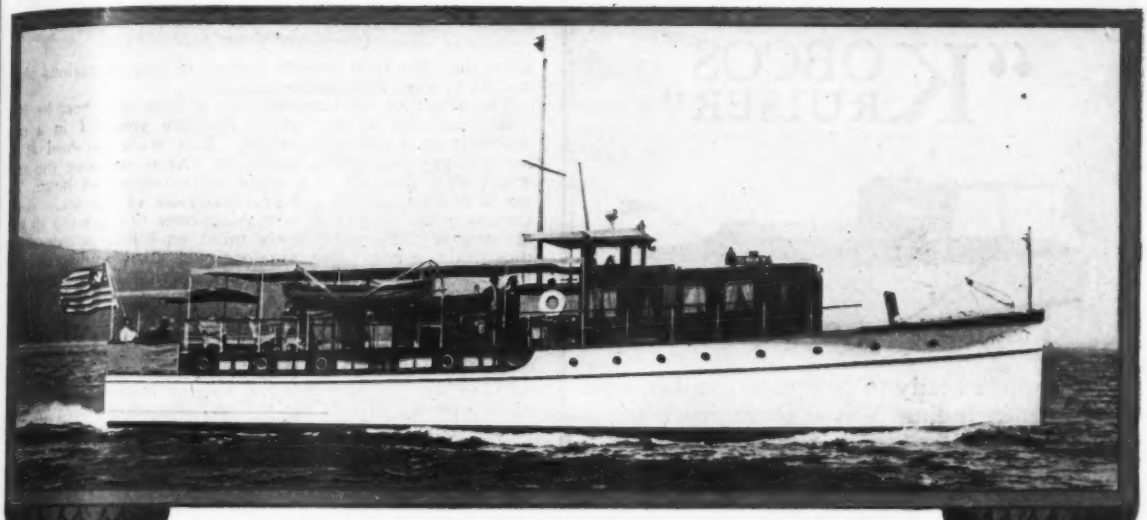


A 77' x 15' New York Yacht, Launch & Engine Co. cruising yacht, powered with two six cylinder 75-100 H.P. 20th Century Marine Motors. Speed 14½ miles per hour.

Delightful Homes on the Water

BUILDING just boats and building homes afloat are two different things. A yacht or houseboat should be something more than merely a seaworthy boat. It must contain all the comforts of the home and have the same congenial atmosphere that makes the home attractive.

Craft of our design and construction represent the final word in serviceability and comfort.

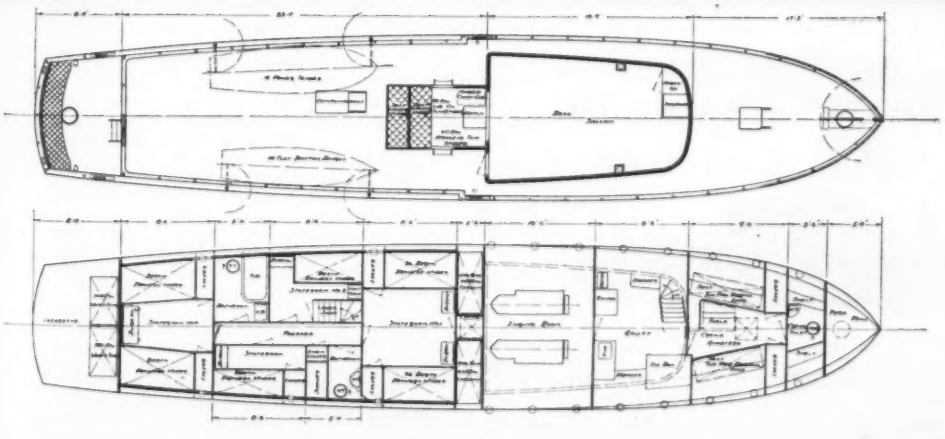
We go even a step further than the designing and building of the boat itself. We build the power plant, too, the 20th Century Marine Motor. This motor is the best fitted for yachts and houseboats where heavy duty engines are required.

20th Century Motors

4 Cyl. Bore, 6½"; Stroke, 8½". 50- 60 H.P. Heavy Duty Type. 400-500 R.P.M.
6 Cyl. Bore, 6½"; Stroke, 8½". 75-100 H.P. Heavy Duty Type. 500-600 R.P.M.

New York Yacht, Launch & Engine Co.

Morris Heights **New York City**



There's Nothing to It

(*Continued from page* 148)

what time the tidal current begins to run at various places and its average strength or speed.

The effect of tidal currents on a boat can best be illustrated perhaps in this way: Imagine yourself in a train which is at a railroad station. You walk forward at the rate of say four miles an hour. Now suppose the train starts up and moves at a speed of two miles an hour. You are now walking forward over the *floor* of the train and at the same time the train is moving over the ground so your speed over the *ground* is six miles an hour, or your speed plus train speed. But suppose you turn and walk back through the train. Now you are moving in one direction, at a speed of four miles an hour, while the train is moving over the ground in an opposite direction at a speed of two miles an hour. Your speed then, over the *ground*, is the difference, or two miles an hour.

Boats are affected by tides in the same way. A ten mile an hour boat going with a two mile an hour tide will have a speed over the ground (or bottom) of twelve miles an hour; going against the tide, will have a speed of only eight miles an hour.

This is of importance to the motor boatman in estimating the time when he expects to pick up a certain light or landmark. Suppose, for example, you are running from a place A to another, B, a distance of twenty miles. The course is plotted on the chart. You observe, from the chart, that there is a lighthouse on your course half-way to B. The speed of your boat you know to be ten miles an hour; therefore, you expect in one hour to have the lighthouse abeam. All well and good—except for this factor of tidal current! If you have a two mile an hour current with you, your speed will be 12 miles an hour and you'll have the lighthouse abeam in 50 minutes; or if you have a two-mile an hour current against you, your speed will be only eight miles an hour and it will take one hour and 15 minutes to reach the light.

Navigation, then, for the motorist who is operating his first boat, resolves itself to a thorough understanding of the compass, its points and errors, to an understanding of the parallel rules, or protractor, of the lead and line and patent log; to a knowledge of charts and the lights and buoys that are indicated thereon; to two simple methods of determining the distance of his boat from shore, and two easy methods of avoiding sunken rock and hidden shoal. Then to an understanding of tides and their influence.

(*To be continued*)

Eisemann Makes Changes

The Eisemann Magneto Corporation of New York have made a number of changes in it's field staff, due to resignations. Irving W. Edwards, who has been representing it on the Pacific Coast, has been transferred to Detroit, succeeding E. H. Hohenthal, resigned, as District Manager. O. L. Bachman, who has been acting as traveling service representative in the Detroit district, has become the District Manager on the Pacific Coast, with headquarters at San Francisco. R. E. Dinnsen has been appointed Assistant Manager of the Chicago Branch, succeeding C. M. Montz, resigned.

Teaser At Show

The exhibition by the Wright Aeronautical Corporation of Paterson, N. J., of the speed-boat Teaser, owned by Richard F. Hoyt of New York and powered with a Wright 625-650 horse-power Typhoon engine was one of the features of the New York Show and proved a popular spot for spectators. A run-way erected alongside allowed a close view of the installation of the engine and of the driving and passenger cockpits. On the bow was displayed the International Trophy won by Mr. Hoyt in Teaser at Manhasset last fall.

Mounted upon blocks for a close inspection was another Typhoon, while a board display showed parts of the engine unaffected after severe tests. Photographs of Teaser in the winning of the International Trophy and in her celebrated defeat of the Twentieth Century's running time between New York and Albany completed the exhibit.

Announcement was made during the show by officials of the Wright Company that six Typhoon engines had been sold for early delivery and installation. The purchasers were E. S. Moore of New York, Harry Darlington, Jr., of Pittsburg, and Gerhard M. Dahl, chairman of the Brooklyn-Manhattan Transit Company of New York. Each bought two of the engines for cruising house-boats to be built by the Consolidated Shipbuilding Company of Morris Heights, N. Y. They will give a speed of 28 miles an hour.

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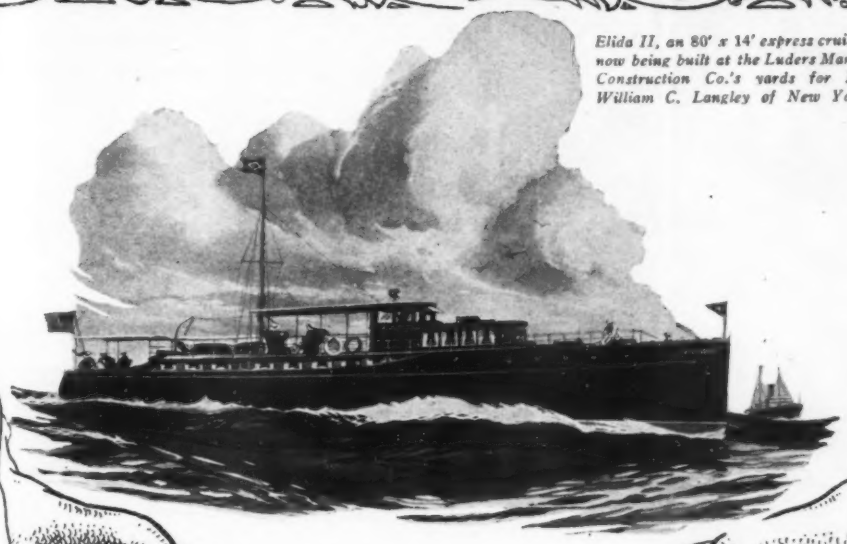


Elida II, an 80' x 14' express cruiser, now being built at the Luders Marine Construction Co.'s yards for Mr. William C. Langley of New York.

Individualism

THE impressive appearance of Luders designed and built boats is but the surface to the more imposing skill and master craftsmanship that individualize not only the exterior but also the interior finish a ndworkmanship of a Luders' yacht.

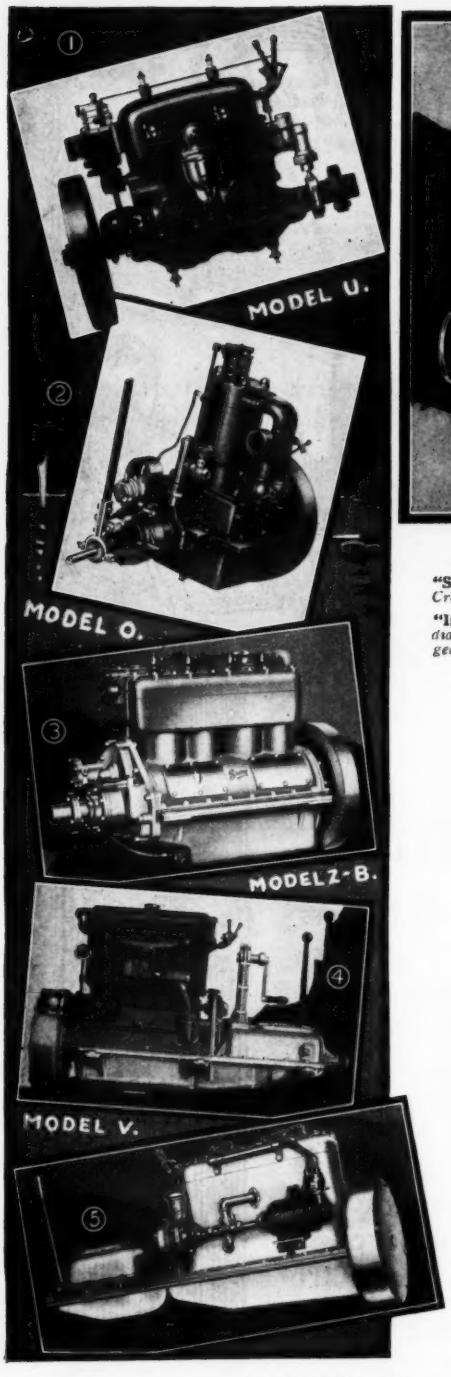
Let us show you why Luders' yachts are preferred by the descriminating yachtsmen. Let us tell you how our unsurpassed facilities for building fine boats are beneficial to you.

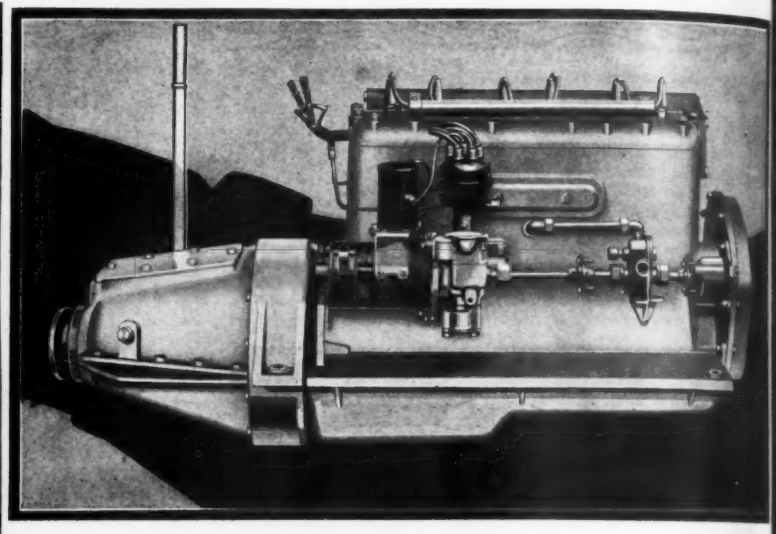
LUDERS MARINE CONSTRUCTION CO.
STAMFORD, CONNECTICUT

Designed and Built by

LUDERS

THE LAST WORD IN YACHT DESIGNING & BUILDING





Two New Gray Sizes

"Supreme Six": *50 H.P. Bore, 3⅛". Stroke, 4½". Weight, 635 lbs. 300 to 2,000 R.P.M. Crankshaft, 2" diameter. With starter and generator and Paragon gear. Price $895 F.O.B. Detroit.*

"Imperial Six": *75 H.P. Bore, 3⅞". Stroke, 5". Weight, 785 lbs. Crankshaft is 2½" in diameter. Connecting rods are 11¼" long. With electric starter, generator, and Paragon reverse gear. Price $1,285 F.O.B. Detroit.*

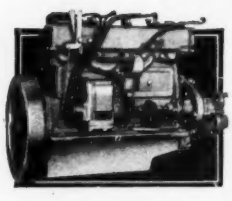
Comparison Proves Gray *Value—Plus* Motors Are Better

THE wide power range of the Gray line of *value-plus* marine engines embraces the power requirements for every type of boat power from a small launch or runabout to a twin-screw cruiser of 65 feet in length. Out of the nine Gray sizes there is not only a power plant suitable for your boat but one that is lower in cost and more economical in operation than any other engine of equal size and power. Let us prove this to you by telling you of some recent installations where Gray engines have replaced power plants of other makes. Let us send you detailed description of Gray engines so you can see for yourself the *value-plus* of the Gray, by comparing it with others.

Complete Line of Gray Marine Motors

All of which were successes at the New York Motor Boat Show

Model "O," single cylinder, 4 cycle, 5 H.P.....$99 to $136
Model "Z," 14-25 H.P...$395 to $466
Model "ZB," 14-25 H.P..$270 to $29S
Model "V," 25-35 H.P...$460 to $720
Model "H-50," 50 H.P..$525 to $700
Model "H-70," 70 H.P.....$1000
Model "Z-6," 50 H.P.....$895
Model "A-6," 75 H.P.....$1285
Model "U," double cylinder, 2 cycle, 6-8 H.P.....$180



Model "ZB," 14-25 H.P. uses the same parts as the famous Gray model "Z," except that the reverse gear is separate and cannot be built-in. Price with generator, battery and propeller $270, with Bosch Magneto Impulse coupling $295.

Get the Facts on Gray Today

Z Model 14-25 H.P. V Model 25-35 H.P. Z6 Model 50 H.P. A 6 Model 75 H.P.

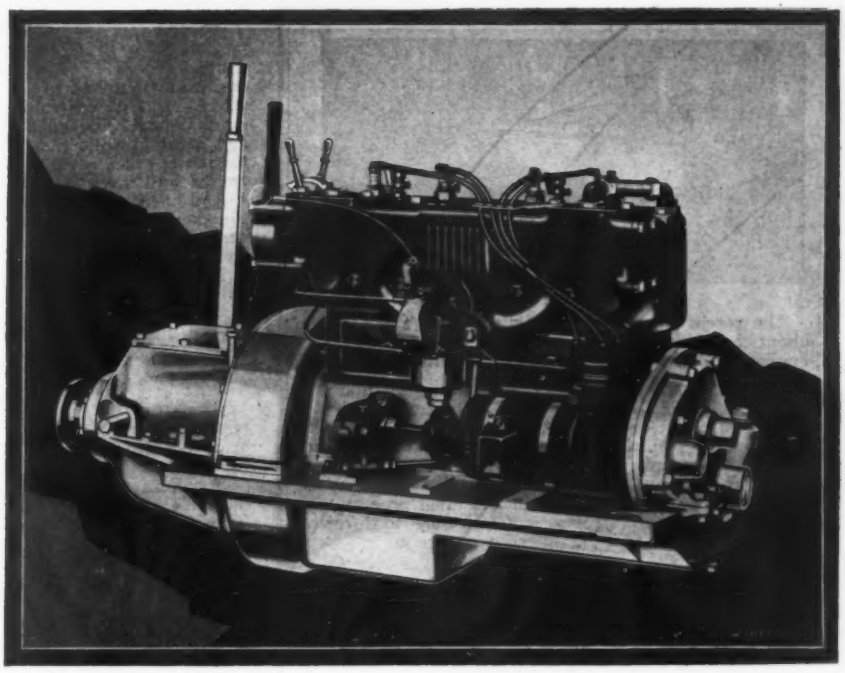
Advertising Index will be found on page 188

Model Z

14-25 H. P.

Price $395 to $466

This motor was the sensation of the New York Motor Boat Show, where it was also displayed in the latest Elco 26-ft. cruiser, on which it is standard equipment. Model "Z" is the shortest, lightest, lowest priced, completely equipped, electric started engine in its power class. 63% of its surface is aluminum; all iron optional, of course, adding 70 pounds. Paragon Gear. Weight, 388 pounds. Length, 38½". Extreme depth below supports, 6⅛". 14-25 H.P. at 225-2,200 R.P.M. Prices, $395 to $466, include propeller, stuffing box and battery, of course, when required.



Fifteen new 1926 features; including oil sump-pump, new carburetor, new water pump, new oiling system and many other refinements.

Behind the Gray is an Organization Composed of Marine Engineering Experts

TWENTY years ago the Gray organization was formed by a group of well-known automotive engineers and ardent boating enthusiasts. It was the resolve of these men to give the lovers of boating the finest marine engine possible at a price within reach of the man with a modest income. How well this aim was achieved is a record that the Gray organization is extremely proud of and the industry as a whole points to with admiration.

Today over sixty thousand boat owners pay homage to the Gray engine as the best low priced, high quality and long life power plant on the market. The latest Gray models are improved and refined to a higher degree of engineering practice than ever before attained in any engine in their price class. The men guiding the Gray organization today have the same aims as the founders of the company. They are true blue boating enthusiasts as well as engine experts and are continually striving to make Gray engines better, even though the Gray today is admittedly the best in its class.

Get the Facts on Gray Today

GRAY MARINE MOTOR CO.

6910 Lafayette Ave., East at Canton Detroit, Michigan

50 Model 50 H.P. | O Model 4-5 H.P. | U Model 6-8 H.P. | ZB Model 14-25 H.P.

Pink Clouds

(*Continued from page* 50)

course. Work!" Other bullets skipped around us, and then one came that had my name on it. I heard it whistle and strike. But it went a little wide and tore the paddle from my hands. I looked back and saw a cayuca following us and gaining while Sergeant Nunes reloaded his revolver in the bow. Saw a thin stain of blood on the shirt of the Indian boy; saw Fred crank his engine like a demon.

And then the motor started and we shot ahead, leaving the land, outdistancing the pursuing cayuca before the sergeant could shoot again with killing aim. For the moment we were safe.

But now George, with a faraway look in his wide brown eyes, brought the paddle in and fell forward into the bottom of the canoe. I heaved and pulled his heavy bulk, and turned him over. Had he been shot by the infuriated sergeant? No. Blood trickled from the old wound in his chest.

Quickly I dashed sea water in his face, wadded a handkerchief over the wound, and bound it with a cord. The bleeding stopped and George fought gamely back to consciousness. Breathing heavily, but uncomplaining, he lay in the bottom of the cayuca.

For long minutes we forged silently through the water. The isle of Porvenir disappeared behind the point of land. The sea heaved and beat upon the shore. I looked at my hands and remembered that they still tingled from the blow of the bullet against the paddle.

"A close squeak," I said to Fred. "You weren't hit, were you?"

"No. But we're not out of the woods yet."

George spoke. "I was foolish, Fred. But I thought it was such a good idea to cripple their engine."

"The worst of it is, George, you haven't crippled it. They're bound to have another set of plugs. Why didn't you drop a wrench into the crankcase?"

"I don't know," said George wearily. "Sailing I know, and paddling, but I don't know engines."

"Forget it, George. What do you think of the weather? A haze has come over the sun and the swell is getting bigger by the minute."

George looked up at the smoky sky. "Don't worry," he said. "It won't get here until tonight."

Fred looked at the Indian in alarm. "What do you mean by 'it'?" he asked. "What won't get here until tonight?"

"The hurricane," replied the boy, languidly. "Did you notice the pink clouds last night and the clear air this morning? The sea will run like mountains before we get to Playa."

I don't mind admitting it. The thought of an approaching hurricane scared me more than flying bullets.

"Will this cayuca live in a mountainous sea?" I asked in dread.

"Oh, yes. Until the wind comes. After that, no."

Then the Indian told us about hurricanes. How the sea runs ahead of them in huge rollers which are not dangerous until they strike the beach and break. How the wind comes after and whips the water to a fury that no open boat can survive.

My misgivings took a new tack. "Fred," I asked, "suppose we do get to Playa before the hurricane, and the sergeant comes after us—why can't he arrest us there?"

"American territory," said Fred simply. "We'll be on the steamship Ophir, flying the American flag, and he can't touch us."

Fred looked astern. Far behind us a dot appeared on the restless sea, lost itself as we sank into a trough, and reappeared as we mounted to a crest. "It'll be a tight race," he continued. "The spiggoties are coming and we haven't got the start I wanted."

So the pursuit began. There was nothing we could do in that breathless air to speed our pace.

Hours passed while the cayuca climbed up and down the ever higher sides of the rolling sea, and the motor boat crept up inch by inch. Escribanos Shoal dropped astern, a welter of foam where the coral tripped the deep-footed rollers and tumbled them upon themselves. The sound of the surf along the shore grew louder and made itself heard above the steady hum of the motor. Overhead, clouds began to form and the westering sun took on a soar, reddish look. Little by little the pursuing boat overhauled us. During these long drawn hours the Indian boy lay quiet, nursing back his strength, gazing unwinkingly into the murky sky which seemed to reel above us.

But now the familiar outline of Cuilia Cay rose slowly above the horizon, and Fred and I kept our eyes upon it.

(*Continued on page* 160)

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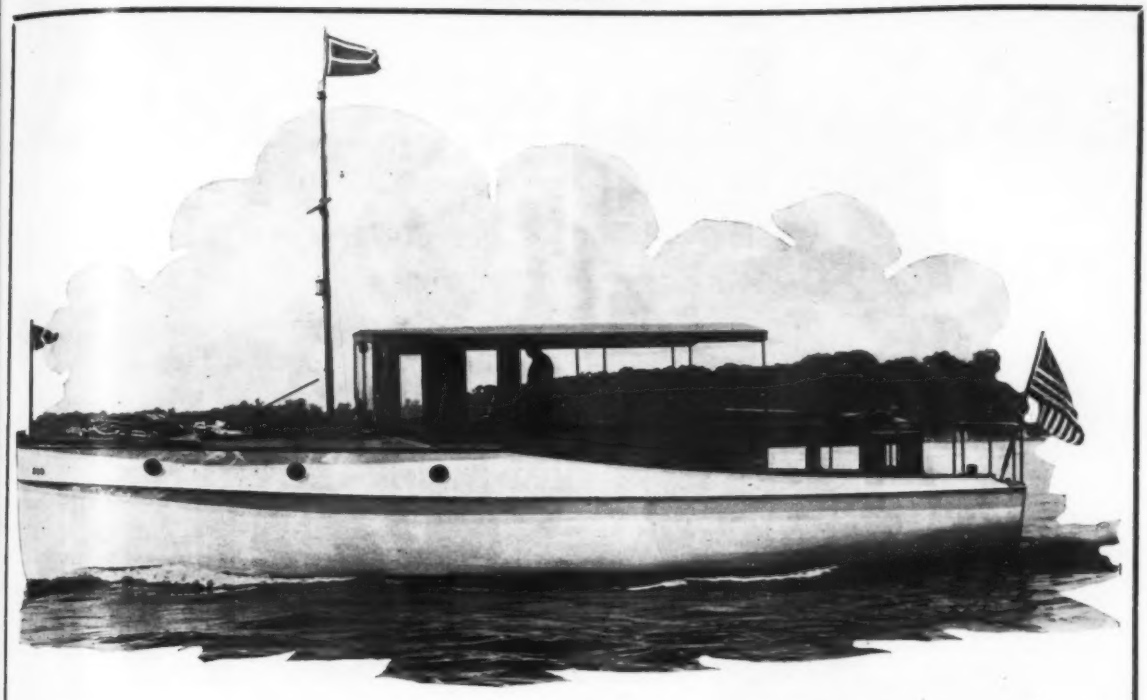

What to Expect When You Buy a Gordon Cruiser

GORDON De Luxe Cruisers are built rugged and strong. They have been designed for heavy weather conditions where seaworthiness is of prime importance. They are small enough for one man to handle alone, but roomy enough to sleep four to ten people comfortably on long cruises. There is ample storage space aboard and the accommodations can be appreciated by those who look for solid comfort afloat.

Gordon Cruisers are Built in Five Models

Gordon De Luxe Cruisers are equipped to live aboard all summer. They are yachty in appearance with all the niceties of equipment that a lover of boating looks for and recognizes. Gordon Cruisers are built for the dusty weather encountered along the Atlantic Seaboard and have proven equally popular on the Great Lakes where practical design and seaworthiness are of prime importance.

GORDON DE LUXE CRUISERS

Luxurious fittings and homey comforts combined with as fine a power plant as can be installed—the Kermath six cylinder 65 horse power motor—are found in all Gordon De Luxe Cruisers.

Write for complete details and descriptive matter

You can expect all this and more when you buy a Gordon Cruiser

Gordon De Luxe Cruisers are built in five models: Raised Deck Cruiser 35'x 9'3"—$6,850. Bridge Deck Cruiser 39'x10'4"—$10,500. Bridge Deck Cruiser 42'x10'4"—$13,000. Bridge Deck Cruiser 42'x10'4" Powered with twin 65 H.P. Kermath motors—$15,000. Bridge Deck Cruiser 46'x11'—$17,000.

Gordon Boat Building Co.

214th Street and Harlem River New York City

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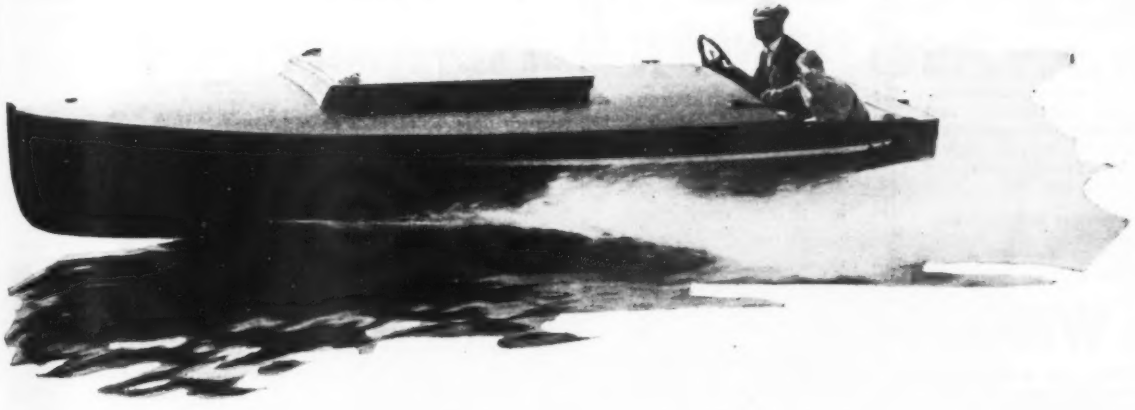
Biscayne Babies



Available from Stock *for* Immediate Delivery

YOU can now own one of these fast eighteen foot runabouts, combining thrilling speed, moderate cost and real utility for all runabout service. They are constructed by the original designers and builders of the first Biscayne Babies, ten of which raced at the 1925 Miami Beach Regatta and ten others participated in the Manhasset Bay Regatta last summer, attracting widespread attention.

Powered with 100 H.P., six cylinder, Scripps motors, Biscayne Babies give a speed of 40 miles or better. They are staunchly constructed of the finest of materials, mahogany planked and salt water equipped. The newest model has a flush deck. Your Biscayne Baby is ready and can be shipped immediately via rail or boat to any point in the United States. Price $2,800 complete.

Write or wire for further details

PURDY BOAT COMPANY

Designers and Builders of High Grade Motor Craft

PORT WASHINGTON LONG ISLAND

A section of the Biscayne Baby, one design class, race at the Manhasset Bay Regatta, August, 1925. The new model does not have the raised hatch, the deck is flush.

Pink Clouds

(*Continued from page* 156)

It was better to look toward safety and try to forget the danger.

And now as we rode the peak of a smooth, towering roller I looked across the smother of foam that marked the sunken reef between the island and the main, and saw the Ophir tugging at her anchor. A cloud of steam smeared her funnel and the moan of her whistle reached my ears even above the wild crash of the breakers.

"We *are* in the soup," I cried. "The Ophir's getting under way. Can't we get across the reef and save a mile of running? If we miss her we're gonners."

"Can't make the reef, Joe. We'd be dashed to pieces. The motor boat is still nearly a mile astern. We're as right as rain."

But even as he spoke his reassuring words we both knew that we were as wrong as mud. Without warning the motor popped viciously and stopped. Fred, rising from a sitting position to his knees, flooded the carbureter and turned the flywheel madly. An answering cough or two, a few revolutions of the flywheel, and again the motor died.

"Out of gas," shouted Fred. "Give me that paddle."

Fred knew that he could not paddle around the island before the motor boat overtook us, but he had the instinct of men who die game. Already our pursuers had cut the distance to half a mile, and we saw the sergeant standing in the bow, revolver drawn. He waved it in the air and I knew that he was calling on us to surrender.

Again the steamer whistled. I saw men casting off her lines. White water from the turmoil of the reef divided on her bow, and steam rose from the anchor winch on her deck. She was leaving the half shelter of Cuilio to seek the open sea, where a ship is safest in a storm.

All the afternoon George had lain like a log for fear of reopening the wound in his chest. But as the motor stopped he had propped himself on an elbow to look over the gunwale. He saw the approaching motor boat, estimated the distance around the island, watched the gigantic rollers sweep under us to break in fury on the reef.

Then George struggled to a sitting posture. He wrenched the paddle away from Fred. "I know the sea," he said. "I have been brought up on it. There's a chance worth taking."

Regardless of his wound he dipped the paddle and headed for the reef. I saw a wave hide the highest palm trees of the island—then curl and flatten out in a mass of white as it broke upon the reef. I saw the next wave override the boiling foam and reach beyond the reef. Calmly, watchfully, George paddled toward this heaving, boiling hell.

I looked astern, and the motor boat was upon us, not a hundred yards away. But she no longer followed. She lay to while the sergeant steadied himself to aim his pistol. Yet he did not fire. He lowered his pistol and with it made the sign of the cross. It was is if he had said, "Why shoot a drowning man?"

I shuddered. The bow of the cayuca climbed up and I thought we were started on our fateful plunge. Far beneath us the reef uncovered its foaming fangs and covered them beneath the first crest of a double-header comber. Then George backed water madly to keep us stern on as the sceond crest rushed us. Down went the bow until we shipped water over the gunwales. Then up it shot as the breaker overtook us, curling, lapping hungrily at our sides. We careened and half filled as it swept beyond, falling, crumbling, but buoying us upon its back.

No use for George to paddle now. We were caught in a power that has never yet been harnessed. The Indian boy, wise in the ways of the sea, had staked our lives on the biggest comber of them all. For split seconds we sped forward, falling, falling. And then the deluge came. White water overwhelmed us. It tore us from the canoe, twisted and rolled us through a mass of foam. Only one thing I knew in that horrible moment—that we were past the reef. Though tons of water pushed us forward, there was no coral in the path.

With straining lungs I came at last to the surface. In the bubbling but placid water around me I saw the heads of my two friends. The canoe, split lengthwise, floated near us. Ropes were thrown from the Ophir and landed on us. With nooses under our arms we were hoisted to her deck. The anchor came home, and we were under way, bound for the open sea where a ship is at her best.

* * * * *

As I look back upon it everything seems blu ed. George in the sick bay with a bandage on his wound . . . Captain Rigg calling Fred and me down for delaying the ship and risking our lives . . . Sergeans Nunes in his slovenly motor boat cutting for dry land as we rounded the island, and shaking his fist furiously . . . And a pink cloud woven in and around a blue-green twenty-five-foot breaker. It's a pretty sick hurricane that doesn't help somebody out of a hole.

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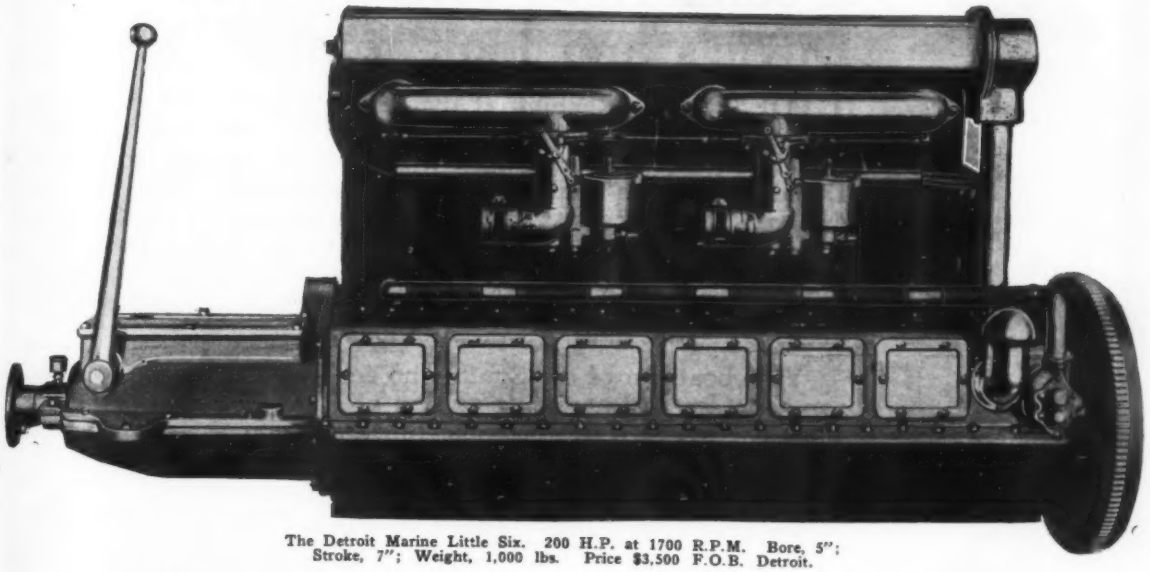
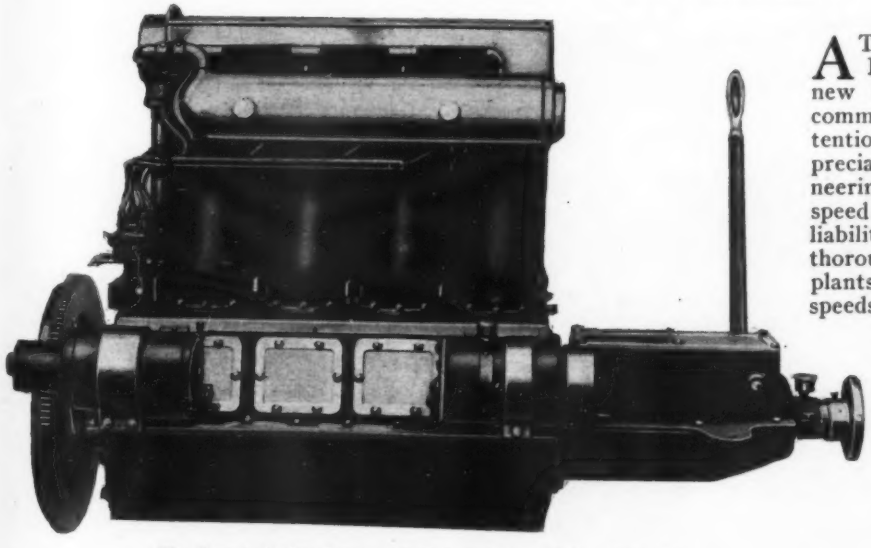
DETROIT MARINE
Four and Little Six



The Detroit Marine Little Six. 200 H.P. at 1700 R.P.M. Bore, 5"; Stroke, 7"; Weight, 1,000 lbs. Price $3,500 F.O.B. Detroit.



The Detroit Marine Four. 125 H.P. at 1700 R.P.M. Bore, 5"; Stroke, 7"; Weight, 800 lbs. Price $2,500 F.O.B. Detroit.

AT the New York Motor Boat Show these two new Detroit Marine engines commanded the maximum attention of yachtsmen who appreciate good marine engineering. Light weight and speed are combined with reliability and durability in these thoroughly tested power plants. In runabouts where speeds of 20 to 50 miles per hour are desired you would not want better power equipment. In cruisers, too, up to 45 feet these new Detroit Marine Engines perform perfectly.

Write today for descriptive literature

DETROIT MARINE-AERO ENGINE CO.

409 CONNECTICUT AVE., DETROIT, MICH.

Distributors:

SEXTON MOTOR CO., INC.
149 Washington St. New York, N. Y.
207 S. Front St. Philadelphia, Pa.
236 State St. Boston, Mass.
311 Star Bldg. Washington, D. C.

ATLANTIC BOAT YARD CO.
201 S. W. Sixth St. Miami, Fla.

A. G. KERR
1200 Fourth Ave. S. Seattle, Wash.

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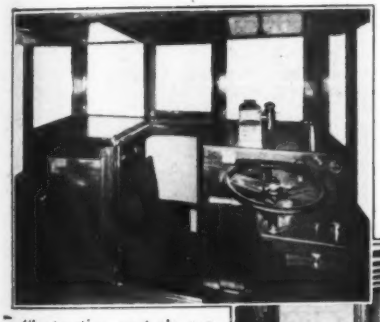
The Chance Weeyacht

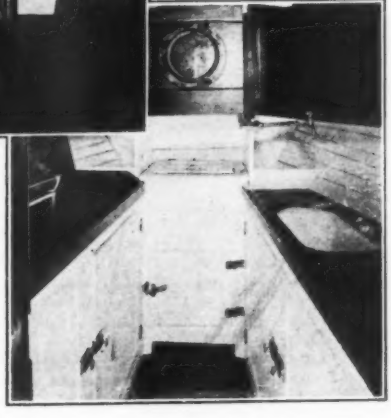
Thirty Six Foot Cruising Yacht



All operating controls are located on the starboard side of the bridge. You have perfect vision to all points from bridge. Engine and fuel tanks are below the bridge deck.

View of the two after state rooms. Note the real large size beds. Private lavatory is located between the two state rooms.

The forward cabin furnished with pullman berths sleeping four. This cabin has a separate lavatory located on the port side.



View of the galley just forward of the main cabin. The galley is fully equipped and entirely enclosed.

The Sensation of the New York Motor Boat Show

NEVER has a thirty-six-foot cruiser created such a hit with boat lovers as the new Chance Weeyacht did at the New York Motor Boat Show.

The Weeyacht is a double cabin bridge deck cruiser with the accommodations and privacy of a yacht twice its size. The after cabin has two separate staterooms, sleeping three people, and the saloon forward sleeps four people. Both after and forward cabins have separate lavatories. Different arrangement for the aft cabin is optional. The galley is forward of the main cabin and fully enclosed. The bridge is canopy covered and equipped with glass windshields. The engine room under the bridge is accessible through a large hatchway.

The Weeyacht is unusually strong in construction and is thoroughly seaworthy. Your desire for speed is limited only by the engine of your choice. This wonderful boat is also carried out in *single cabin* forward with *large cockpit aft.*

Write today for detailed specifications and arrangement plan.

Also builders of the Chance Tomboy a 32 ft. moderately priced, family runabout. Speed 21 miles with 50 H.P. and 25 miles with 90 H.P.

CHANCE MARINE CONSTRUCTION CO.

Annapolis, Maryland

South Florida Distributors:

Ewing Easter, Cocoanut Grove, Florida

Transco, an Outboard Runabout

(*Continued from page* 36)

planking is completed. The plank may be increased 7/16 or ½ inch thickness if the boat is intended for very hard service. The frames are of white oak ½ x ⅞ inches and should be made continuous from gunwale to gunwale, crossing over the top of the keel batten. The frames are fastened to the planking with copper nails riveted over burrs. Floor frames of ¾ inch oak should be fitted in every second frame space in the bottom of the boat to stiffen the bottom planking and to carry the inside flooring strips. The inside flooring is of spruce strips ½ inch x 3 inches laid with a ¼ inch space between and screw fastened to the oak floors.

The forward deck is of ½ inch pipe covered with canvas and made water tight. The beams are of oak sawn to the shape of the crown and well fastened to the gunwale at each end. The cockpit coaming is of oak ½ inch thick, steam bent to shape and screw fastened. Reinforcing blocks are fitted on the coaming to take the rowlock sockets.

A boat of this design will make a very useful, serviceable and safe small power boat for either coastal or inland waterways. It is not necessary to use two motors as a single outboard motor of suitable size will give very satisfactory results and sufficient speed for general use.

Details of spray hood, awning top, flag poles, mooring cleats, small fittings, cushions, etc., can be made to suit the individual owner's requirements.

It must not be forgotten that boats propelled by outboard motors come under Government regulation and must carry the required equipment of life preservers, fire extinguishers, whistle, lights (after sunset), and two copies of the pilot rules.

Blue print copies of these drawings, to a scale of 1 inch to the foot, can be secured at moderate cost, by addressing the Editor, MoToR BoatinG, 119 West 40th Street, New York, N. Y.

IN the rush of getting out the Big February Number of MoToR BoatinG, an unfortunate error slipped through on the blue print plate for the outboard speedster Whiz. This was credited as a design by Charles D. Mower, although the actual condition is that the design was prepared by the Engineering Department of the Johnson Motor Company, South Bend, Ind. The company spent much time and effort in developing this craft, and deserve full credit for the boat.

All Florida Active

(*Continued from page* 25)

One of the principal races at the Tampa regatta will be among a new class of boats known as the Tampa Baybies. These boats are 21 footers, built for Mr. Davis of Tampa and St. Augustine by John L. Hacker of Detroit. Some fifteen of these little boats are building, which with the 100 h.p. Scripps type F-6 motors with which they are equipped, should give a speed of around 40 miles per hour.

Other classes to be held at Tampa include races for the Sunshine babies, a class of 25 foot runabouts owned in Tampa and vicinity and powered with motors of 725 cubic inches piston displacement. Mr. Davis has presented to the American Power Boat Association a handsome perpetual Gold Trophy for this 725 cubic inch class and the first races for this new Davis Trophy will be held at the Tampa regatta on March 5 and 6.

The 151 cubic inch hydroplane of which there are many on Tampa Bay will also get together for two heats on each of the race days. Many of these 151's are new boats with new power plants especially developed for these races so competition is likely to be extremely keen.

The Free for All Class at Tampa is likely to shatter all existing speed records in Florida. With such entries as Miss Tampa, Sara-E-Sota, Bugs, Fore, and Baby Sunshine, which is the old Baby Sure Cure, is no telling what the new record will be until the boats reach the finish line.

Boats powered with Outboard motors will also have their place on the program. The new Baby Buzz class of boats of which there are many building in Florida will race for the first time. These boats will all be powered by Johnson big twin outboard motors.

At the National Southern Championship Regatta to be held on the Flamingo Course, Biscayne Bay, Miami Beach, Florida on March 18-20, several important championships are to be decided. On March 18 there will be three 50 mile heats for the famous Fisher-Allison Trophy. As this trophy must be won three times by one owner before it becomes his perpetual trophy and as both Gar Wood and Webb Jay have each won the trophy twice, it will be seen that this contest

(*Continued on page* 168)

Advertising Index will be found on page 186

BRENNAN STANDARD MARINE MOTORS

The Ace of Them All!

PEARSON & SUUTE
Yacht Builders and Designers
Havre De Grace, Md.

SEPTEMBER 5, 1925.

BRENNAN MOTOR MFG. CO.,
SYRACUSE, N. Y.

GENTLEMEN:

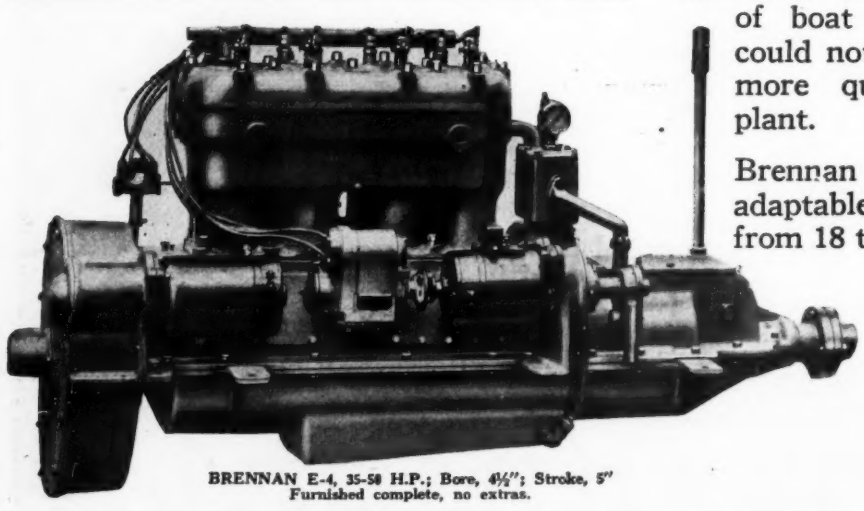
I HAVE GIVEN THE MOTORS THREE TESTS AND FIND THAT THEY ARE AS NEAR PERFECT AS ANYTHING I HAVE EVER SEEN IN THE MOTOR LINE.
BOTH ENGINES RUN BEAUTIFULLY.
VERY TRULY,
(Signed) EDWIN E. PEARSON.

(NOTE: *Mr. Pearsons boat is a 50' x 12' 10" x 3' draught cruiser powered with two model E-4 35-50 H.P. BRENNAN Motors.*)

THAT'S what the owner of a Brennan thinks of his motor. He knows there is no other motor suitable for his boat that can give more economical, reliable and enduring service than his "honor built" Brennan gives.

Always ready to start, immediately responsive to the throttle and ever willing to run continuously under full load are the qualities that are cementing life long friendship between the Brennan and thousands of boat owners. And, you could not want a smoother or more quiet running power plant.

Brennan Standard Motors are adaptable for every type of boat from 18 to 75 feet in length.



BRENNAN E-4, 35-50 H.P.; Bore, 4½"; Stroke, 5"
Furnished complete, no extras.

Six-Cylinder Models

D-6, 4½" Bore, 5" Stroke, 50-75 H.P.
60, 4" Bore, 5½" Stroke, 60 H.P.
100, 4⅜" Bore, 5½" Stroke, 65-100 H.P.

Built-in reduction gear optional

BRENNAN MOTOR MANUFACTURING COMPANY
500 E. Water Street **Syracuse, New York**

Write BRENNAN Before You Buy

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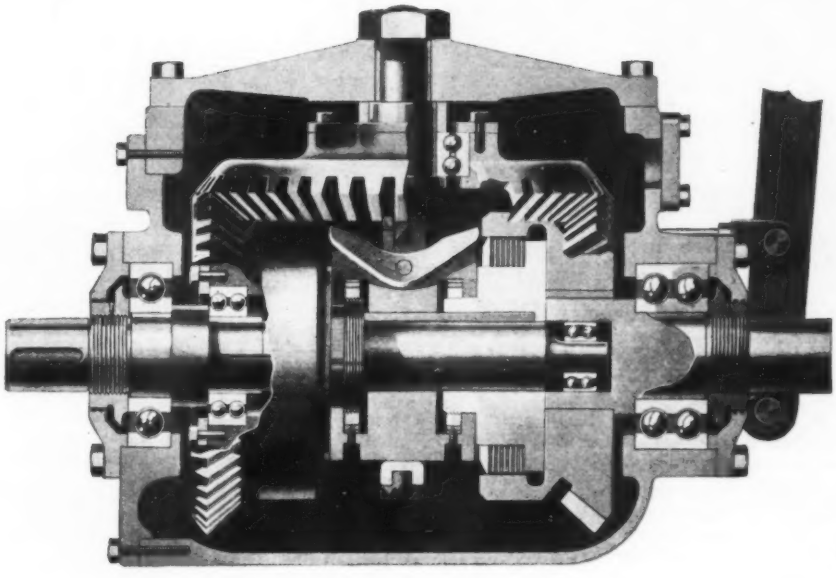
No Other Gear Like It



McKinnon Reverse Gear

JUST as the McKinnon Reverse Gear is entirely different in design and principle from any other gear on the market, in service, too, it is different. No other reverse gear will operate indefinitely with efficiency equal to the McKinnon. It delivers 97% of the engine efficiency to the propellor and runs for hours under full load without overheating or injury to any part. Whereas, most other gears would burn up in less than one hour of continuous operation in reverse.

The McKinnon Reverse Gear has no small working parts to wear out. Three large and perfectly meshed bevel gears and a multiple disc clutch constitute the principal parts. It engages smoothly, holds firmly and operates quietly. All rotating parts are mounted on S. K. F. ball bearings and work in a shower of oil.

Write today for description and prices, giving details of your engine, including R. P. M. and H. P.

The McKinnon Iron Works Co.
ASHTABULA OHIO

All Florida Active

(*Continued from page* 164)

is to be the deciding one. Gar Wood has entered two boats for the Fisher-Allison race, Baby Gar IV and Baby Gar VI, while Webb Jay will have his Packard powered runabout, Adieu, at the starting line. The boats to be eligible to compete for this trophy must be 32 feet in length and powered with motors of not over 1060 cubic inches piston displacement.

Another feature event at the Miami races will be that for Gold Cup runabouts. Entries have already been received from the fastest craft in this class in the world. The nationally famous Baby Shadow owned by Carl G. Fisher, which set up a new world's record for this class at last summer's Gold Cup Regatta is already at Miami Beach waiting for the starting signal. Other entries include Palm Beach Days, a new Gold Cup races, owned by Commodore A. H. Wagg and William Bigelow of Palm Beach, Sara-E-Sota, another new boat owned by Forrest Adair, Jr. of Sarasota, Florida and Chicago, Nuisance owned by Mrs. Delphine Dodge Cromwell of New York and Miss Tampa owned by D. P. Davis of Florida, the boat which finished second in last summer's Gold Cup races in New York.

Of course, the boats of the Biscayne Baby Class will also provide one of the feature events at the Miami Beach races on March 18-20. These boats, as will be recalled, raced last winter at Miami and again last summer at Port Washington. In last winter's races they were all driven by famous automobile racing drivers but this winter their owners will be at the helm. These boats are still powered with the original Scripps 100 h. p. engines.

At Miami this winter the first contest for the Colonel E. H. R. Green trophy will be held. This is a race open only to boats powered with outboard motors and the Colonel Green trophy is the first national trophy ever to be offered for outboard motor racing. Practically the only restriction governing this race will be that the motors do not exceed 17 cubic inches piston displacement. The trophy is a perpetual one and held by the winner for one year. A replica of the trophy is also presented to the winner each year.

Not the least important of the Miami events will be those for cruisers. Several valuable trophies have been offered for a race for Matthews 38 foot cruisers. The course for this race will be from Miami to Palm Beach and return, a distance of about 140 miles. As there are some 50 of these Matthews 38's in Florida at the present time, it is expected that the entry list for this ocean race will be very large.

It is also probable that there will be a contest of Elco cruisers if enough entries are received.

Other events at Miami include races for 151 cubic inch hydroplanes, 725 inch runabouts, Dodge Water Cars, Chris-crafts, Baby Gars, etc. Of course, the Grand Finale of the Miami Beach Regatta will be the Annual Chance Race which generally attracts about 50 starters.

The personnel which has been in charge of the Annual Southern Championship races at Miami Beach for the last several years will again officiate. The list includes such well known racing men as Carl G. Fisher, Commodore C. W. Kotcher, Commodore A. A. Schantz, J. P. Stoltz, C. W. Chase, E. W. Sewell, Charles Krom and others.

The Biggest Thing at the Biggest Show

(*Continued from page* 27)

quirements and your purse. Come on Public, we're glad to see you. Long have we waited, but while waiting we've planned and worked—and now we're ready to serve you truly and well, so come on!"

That, to our way of thinking, at least, was the biggest thing at the biggest Show. Not the crowds, nor the large number of exhibits, nor the great improvements; but, rather, the consciousness that the motor boat industry knows just where it is going, and is merrily on its way.

There is danger, however, in such a situation; a danger that satisfaction may become confused with contentment.

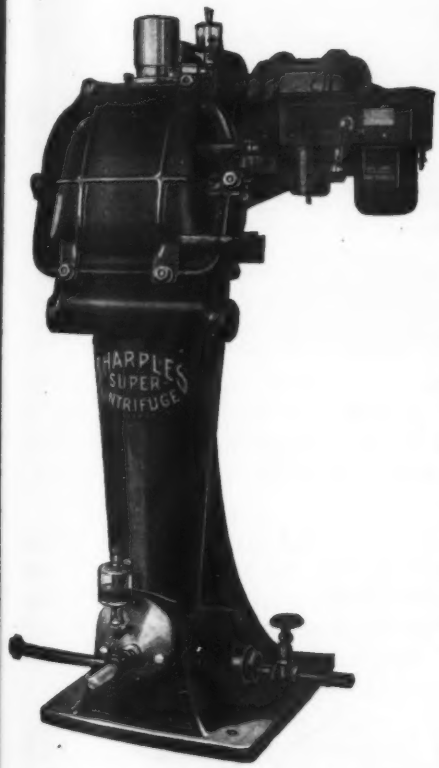
Today's achievements merely mark a mile-stone. The future holds wonderful things in store for us. And it is for us to keep going, to keep going steadily forward.

More Magnetos Used

M. W. Bartlett, President of the Splitdorf Electrical Company, has reported to the directors of the Splitdorf Bethlehem Corporation, an increase of approximately one hundred percent in magneto consumption during the last half of 1925, as compared to the corresponding period of the previous year.

Advertising Index will be found on page 186

These two new yachts will be Sharples Protected



Write for Sharples bulletins on Centrifugal Treatment of Diesel Fuel and Lubricating Oil.

THE powerful Diesel engines of these modern and luxuriously appointed Diesel yachts designed by Henry J. Gielow, Inc., for David C. Whitney and D. P. Davis, will be *Sharples protected.*

On these yachts a Sharples Presurtite Super Centrifuge stands guard over the lubricating oil systems, removing dirt, water, and abrasives as fast as they accumulate. The bearings of the engines are thereby insured against the destructive action of fouled lubricant, and the oil is kept in a continuously clarified condition.

A second Sharples Presurtite Super Centrifuge on each boat protects the fuel oil against accumulations of water and sand, and the engine cylinders, liners and piston rings are permanently protected against injury from grit and moisture-laden fuel.

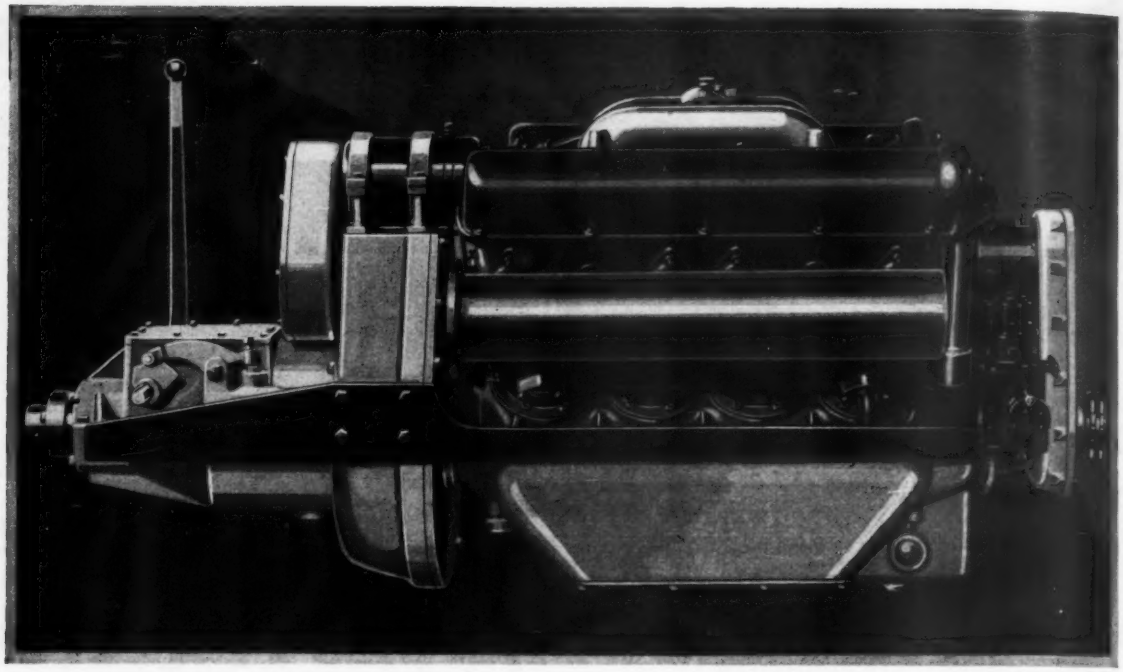
For the inside story on efficient Diesel engine operation write for the Sharples bulletins on Super Centrifugal Treatment of Diesel Fuel and Lubricating Oil.

The leading centrifugal installations in the marine field are Sharples.

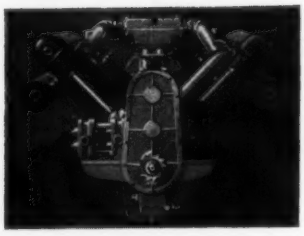
THE SHARPLES SPECIALTY COMPANY,
2340 WESTMORELAND STREET, PHILADELPHIA.

Boston, New York, Pittsburgh, Chicago, Detroit, Tulsa, New Orleans, San Francisco, Los Angeles, Seattle. Super Centrifugal Engineers, Ltd., Aldwych House, London, W. C. 2, England, Ste. Ame des Appareils Centrifuge, 8 Rue du Helder, Paris, France. Tatsumi Commercial Corporation, Marine Insurance Building, Tokio, Japan.

SHARPLES
A GREAT FORCE



The New CROSS-KYSOR
Worthy of the finest craft



End View

Cross Reduction Gears
Cross Reverse Gears
Cross Gear Boxes

This new light-weight, high-speed marine motor—the Cross-Kysor 220 H.P. Super-Marine is preeminently the foremost engine of its kind from every angle—performance, design, construction and value. It is absolutely a leader in its class.

All the features that every speed-boat owner has wished for are now incorporated in this marvel of marine motor design—accessibility, durability, stiffness and rigidity, universal servicing of parts, ease of starting, uniformity of timing and ball bearing throughout—all to be found in this motor.

CROSS KYSOR
SUPER-MARINE
220 H.P. ENGINE

We will be pleased to send full information and price on request

CROSS GEAR & ENGINE COMPANY
3260 Bellevue Avenue, Detroit, Michigan, U. S. A.

"A BRUTE FOR POWER AND A GLUTTON FOR SPEED"

Advertising Index will be found on page 186

Peerless

NEW PEERLESS PRICES

Effective April 2nd, 1926, prices on Peerless motors will be advanced as follows:

4 cyl. 50-100 H.P. Medium Duty type	$1600.00
4 cyl. 115 H.P. Semi High Speed type	1750.00
6 cyl. 75-150 H.P. Medium Duty type	2300.00
6 cyl. 175 H.P. Semi High Speed type	2500.00

"Whileaway II," Owned by J. H. Carpenter

WHAT PEERLESS OWNERS SAY:

Ossining, N.Y.
December 20th, 1925

Peerless Marine Motor Co.
Buffalo, N.Y.

Gentlemen:

Our Peerless Six installed in the "Whileaway II", has given us great satisfaction. It has abundant power, is smooth and quiet in operation and in every way far exceeds any marine motor that we have ever used.

The "Whileaway II", is forty feet long, a good substantial boat and in no way built for speed, however, with the Peerless Six, we can actually do sixteen miles per hour which we consider is excellent performance for this size and type of boat. The engine is equipped with a 24x24" wheel. We kept an accurate account of gasoline consumption on four runs of eighty-six miles each, the boat averaging thirteen and one-quarter miles per hour. We used on each run an average of forty gallons of gas which means better than two miles per gallon.

Should you ever wish to refer anyone to us regarding the Peerless Six, we would be very pleased to tell them of our experience with our Peerless motors. The first of these a two cylinder 8-10 HP purchased in 1913 is still running and apparently as good as ever.

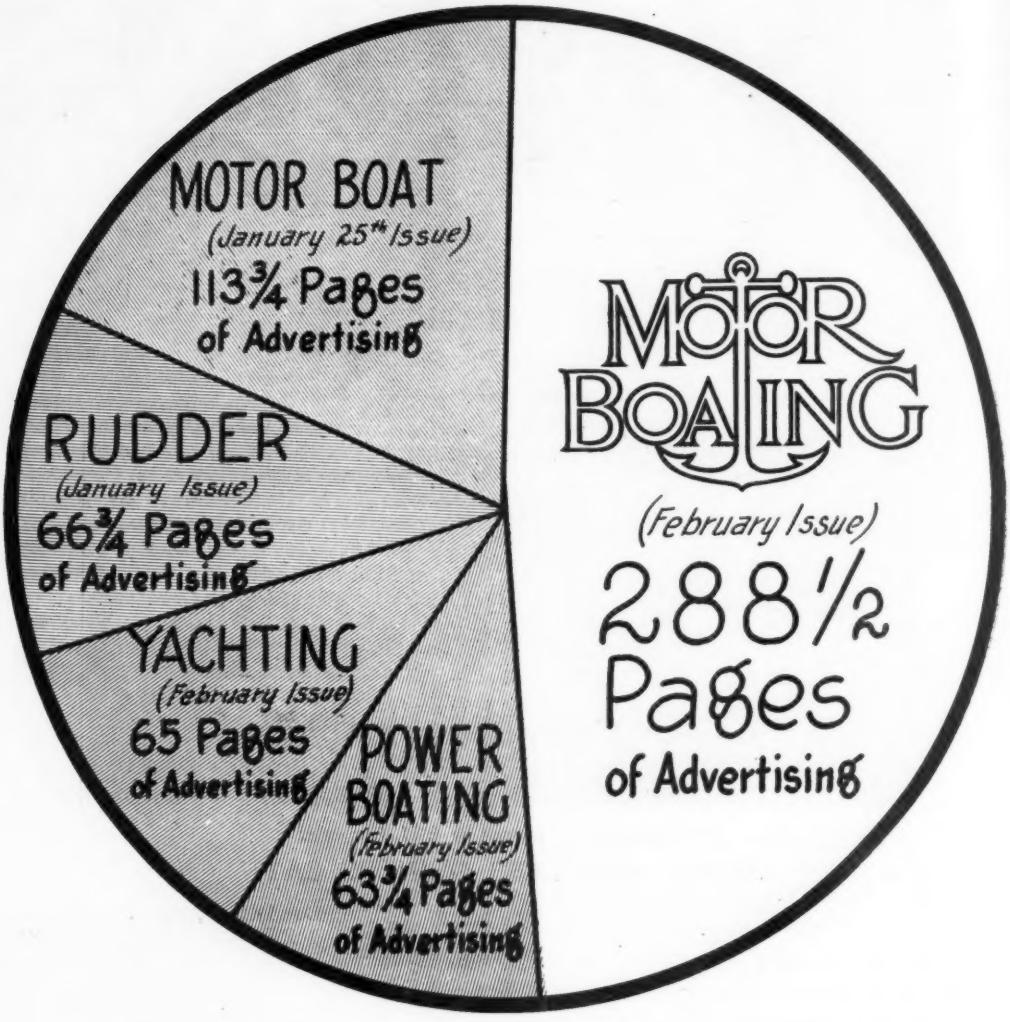
Respectfully yours

J. H. Carpenter,
Ossining, N.Y.

PEERLESS MARINE MOTOR CORP.

2160 NIAGARA ST. BUFFALO, N. Y., U. S. A.

The Annual Show Numbers



The Overwhelming Choice

THIS disc with its five divisions brings to you an important message from the leading marine advertisers. It tells you in unmistakable terms which boating publication is the first choice of the industry as the vehicle to carry its annual sales messages to the boating market.

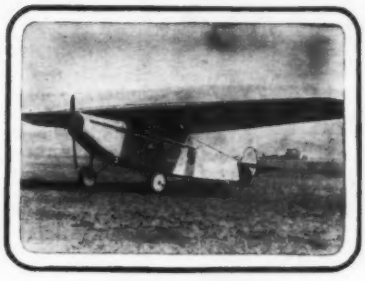
This overwhelming choice is not based on favor alone but on the quantity and quality of MoToR BoatinG's circulation, and the results produced by past advertising in MoToR BoatinG. The chart above shows the volume of advertising carried in the show issues of the publications named. Notice that MoToR BoatinG carried nearly one half of all the advertising placed—within a few pages of the total for the four other publications combined.

The April issue of MoToR BoatinG will be the Fitting Out Number, the Big Spring Buying Guide. Forms close March fifth. Reserve the space for your advertisement now.

MoToR BoatinG, 119 W. 40th Street, New York City

Advertising Index will be found on page 186

FOR THE AUTOMOBILE



FOR THE AEROPLANE

FOR THE MOTOR BOAT

The Durability and efficiency of the AUTOPULSE have been fully demonstrated by the Automobile and Motor Boat Racing fraternity and is used exclusively by DePalma, Milton, Hartz, Shattuc, McDonough, Wonderlich.

The AUTOPULSE System of Fuel Supply is used as standard equipment on Wills Ste. Claire Six, McFarlan Six, Duesenberg Straight 8, Mack International Highway and Parlor Car Busses, Hall-Scott Highway and Marine Motors, Horace E. Dodge Boat Works, "Watercar," Belle Isle Boat Works, Chris Smith Boat Works, Standardized" Chriscraft."

SIMPLIFIED!

CONSTANT improvements in combustion engines demand simplified units—the AUTOPULSE System of Fuel Supply is a simplified unit, adaptable to every type of combustion motor and provides for the first time a positive and simple means of getting fuel direct from the supply tank to the carburetor.

Unfailing performance and remarkable endurance of the AUTOPULSE System of Fuel Supply in many recent speed events on land and water, have won for it the preference of Automobile and Motor Boat race drivers the country over.

Besides, the use of the AUTOPULSE as standard equipment means a simplified line of production—not to mention lower installation costs.

The AUTOPULSE is a small magnetic device which pumps a continuous flow of fuel from the supply tank to the carburetor with human, pulse-like regularity.

FOR FULL PARTICULARS, WRITE TO

IRELAND & MATTHEWS MFG. CO.

ESTABLISHED 1889

1500 Beard Avenue DETROIT, MICHIGAN

Repowering the Boat

(*Continued from page* 40)

advisable to fit a new cross timber or two and the usual bed timbers, joining the two by bolting through the steel extensions. A conventional engine bed section which is considered good construction, is shown. The athwartship timbers clear the planking at all points and the bearing comes on the keel and the bilge keelsons which are fastened to the frames by heavy screws. At the center a bolt extends through the keel with the nut on the inside. The bilge keelsons are as long and as heavy as is practical in order to distribute the weight and absorb vibration, and the bed timbers are halved into the cross timbers and bolted through.

After the bed timbers are leveled, set the engine on the foundation and align it very nearly to the shaft and mark for the holding down bolt holes with an auger that will just pass through the holes in the bed plate. Where the engine can not be readily moved to and from the foundation, make a templet of the exact size and shape of the bed plate and mark the holes as before. Locate a center line at each end of the templet and, placing the templet on the foundation, align it to the shaft log by plumbing from the chalk line to the center marks. Bore through the templet and the foundation timbers where marked and remove the templet. The bolt holes should be bored clear through the foundation timbers wherever possible and the hole should be the same size as the holes in the engine bed plate. Machine bolts clear through the bed timbers with a nut and washer on the under side are the only satisfactory fastenings for holding the engine to the foundation. Should it be impossible at certain spots to get the nut on the bolt, bore through from the side as low as you can so that the nut may be put on through the hole. Lag bolts or hanger bolts may hold for the first year or two but they will eventually loosen or the wood will be stripped in an attempt to tighten the fastenings. Place a washer between the engine bed plate and the foundation timbers to avoid the possibility of straining the casting.

Where steel angles are used to extend the foundation, laying out the bolt holes will be much easier if the extensions are bolted on and the templet used to locate the holes, after which the angles are removed and drilled. Should the holes not check or the engine not align properly, a reamer can be used or a size smaller bolt put through that hole. When bolting metal to metal a lock washer under the nut will stop their coming loose from vibration or other causes.

As practically all the newer engines have the reverse gear coupled to the engine on an extension base and a flange coupling to the propeller shaft, we will consider that method of aligning the engine and propeller shaft. With the bed timbers aligned as explained, the engine should align very nearly right, up and down and a little shifting will bring the alignment sidewise. Where shimming on wood is necessary use thick or thin washers between the bed plate and the foundation. Washers or thin sheet iron or brass shims are recommended between metal surfaces.

It is not practical to test the alignment except when all bolts are drawn up tight. Then press the flanges together by hand and test between the halves with four narrow strips of thin paper evenly spaced or, use feeler gauges. When all the papers draw evenly or the gauge passes all around between the flanges with the same tension at all spots the engine is in line with the shaft. It is very likely that several tests will be necessary, so don't get discouraged if the alignment does not come at the first trial.

Don't hurry, but keep at it and you can get the alignment so perfect that when the gear is thrown out with the boat going ahead the propeller shaft will continue to spin. If the engine is aligned with the boat on shore it will be necessary to check the alignment after the boat has been in the water for a week or two. Any boat will change shape slightly when put in the water due to a change in the bearing and the swelling of the wood.

If at some later date you remove the engine for overhauling, don't do like some of the fellows at the club do. They put the engine back on the foundation and if the bolts will go through the same holes think that the engine is properly aligned for that reason. If the engine is removed or loosened, the aligning operation must be repeated from the beginning for it is impossible to align an engine with the bolt holes so tight that no shifting is possible and therefore, the engine will not be replaced in exactly the same position from which it was removed unless realigned.

An engine coupled to the propeller shaft through a universal joint or a flexible coupling should be just as carefully aligned as with a solid flange for the closer the alignment the less motion in the joint and the less power the joint will absorb through friction and the longer the life of the joint.

W. B. M., Newburgh, N. Y.

Advertising Index will be found on page 186

Who Is This?

in a

BABY GAR

Gloria Swanson

having some *real* fun in one of these remarkable runabouts

You, too, can now own one of these aristocrats of the water.

HOWARD W. LYON

EXCLUSIVE DISTRIBUTOR
GOTHAM NATIONAL BANK BUILDING, 1819 BROADWAY
NEW YORK CITY
Telephone: Columbus 1212

FLORIDA OFFICE: 507 MERIDAN AVENUE,
MIAMI BEACH, FLORIDA
Telephone: Miami Beach 856

Built by **GAR WOOD, Inc.**

409 CONNECTICUT AVENUE, DETROIT, MICH.

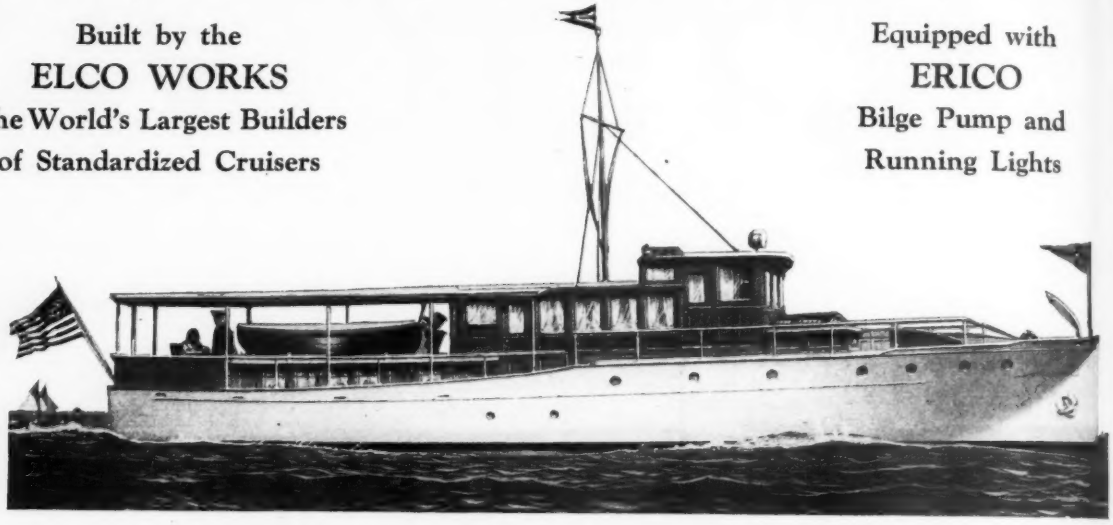
Sole Concessionaire for Great Britain and the Continent
CLAUDE GRAHAME WHITE, 12 REGENT STREET
PALL MALL, LONDON, S.W.1

Advertising Index will be found on page 188

The World's Largest Stock Cruiser

Built by the
ELCO WORKS
The World's Largest Builders
of Standardized Cruisers

Equipped with
ERICO
Bilge Pump and
Running Lights



The Elco sixty-two foot motor yacht, the largest and finest standardized cruiser ever produced. This palatial craft was the star attraction at the New York Motor Boat Show.

ERICO
Accessories
for Your Boat

ELECTRIC BILGE PUMP
CLAM SHELL VENTILATORS
POLISHED CAST BRONZE PORT LIGHTS
MOORING BITS
UNIVERSAL SHAFT LOG
UNIVERSAL STRUT
INTAKE AND EXHAUST PIPE CONNECTIONS
TANK CAPS AND FLANGE
COMBINATION BOW PLATES
SPARK, THROTTLE AND CLUTCH LEVERS
COWL VENTILATORS
BRONZE CANNONS
YACHT BELLS
RUNNING LIGHTS

THE Elco Works of Bayonne, N. J., need no introduction to those familiar with the finest standardized pleasure boats afloat. Since 1893 when naphtha launches were all the rage with motor boating enthusiasts the Elco Works has taken the lead in building standardized cruisers of high quality. We are more than modestly proud to number the Elco Works among the hundreds of boat builders who are using ERICO marine specialties.

Before you put your boat overboard this spring check up its accessories, replace the old and damaged ones with ERICO's. They last longer, because of their better manufacture.

Write today for the latest catalog of

ERICO MARINE SPECIALTIES

ERICO
Accessories
for Your Boat

COMBINATION ELECTRIC POST LIGHTS
ELECTRIC SEARCHLIGHTS
LIGHTING FIXTURES
MAST STEPS
MAST HINGES
COMBINATION FLAG STAFF AND ELECTRIC STERN LIGHT
STERN FLAG STAFF SOCKETS
COMBINATION SASH HINGES
AUTO TYPE STEERING WHEELS
COLUMN SPARK AND THROTTLE CONTROLS
FENDER HOOKS
FANCY WOOD STEERING WHEELS

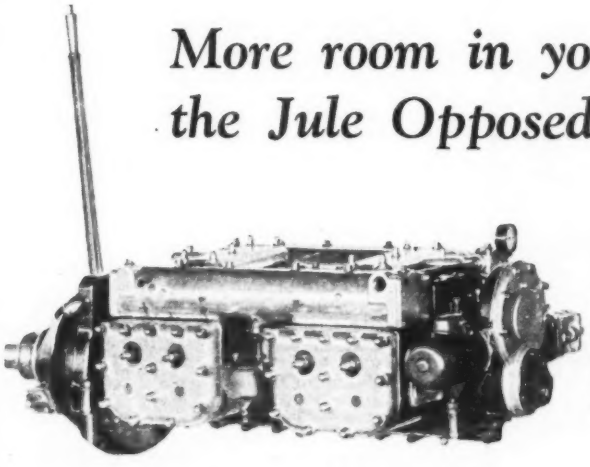
ERICO
MARINE SPECIALTIES

HUBBARD H. ERICKSON & CO.

3037 N. Western Ave. Chicago, Illinois, U. S. A.

Advertising Index will be found on page 186

More room in your boat with the Jule Opposed Motor



Designed solely for marine use, this new Jule Opposed Motor does more than one could fairly expect from the ordinary gas engine created primarily for automobile or aviation purposes.

SHOW COMMENTS

A prominent Boat Architect said:
"It is not a question of make but a question of Four or Eight."

A famous auxiliary racer:
"Had I known of your motor sooner I could have greatly improved the entire design of my boat."

An American builder of palatial cruisers:
"It opens up many new possibilities in improving cruiser designs."

In all types of marine engine installation—this new and sensational Jule Opposed Motor permits the use of much more room because the motor is smaller in length and height by many inches than any other power plant of like horsepower.

Its small vertical height makes this motor ideal for auxiliaries because it takes up less valuable room. On runabouts the Jule engine can be installed amidships with only a slight raise in the flooring.

With this installation it is possible to redesign the boat to give all the advantages of double and single cock pit types. On cruisers the cabin can be lowered—giving much more living room or greater deck space.

The Jule can be installed for twin or triple screw operation in less space than any other type of motor. It results in marked improvement in fuel economy for motor boats.

Light in weight, compact in size, the Jule Motor is made of best materials by expert engineers and engine builders.

The eight cylinder develops 100 H. P. at 2000 R. P. M. with 426 cu. in. piston displacement. Weight, 846 lbs.; 52¼" long, 10¼" center to top, 30" overall width. Price $1200 complete.

Four cylinder Jule develops 50 H. P. at 2000 R. P. M. Piston displacement 213 cu. in. Weight, 590 lbs. Length, 35½". Price, $700.00.

Furnished with 2.1 or 3.1 internal reduction gear at an extra cost of $100. Further information upon request.

JULIAN S. BROWN
President

W. CHARLES LIPE
1st Vice-President

HERBERT E. PAGE
2nd Vice-President

H. FOLLETT HODGKINS
Secretary and Treasurer

JULE MOTOR CORP.
Syracuse N Y

Yard and Shop

(*Continued from page 72*)

New Light Red Wing Six

Following close on the heels of the Big Chief 5 by 7 inch and 5¾ by 7 inch, six cylinder Red Wing Thorobreds which were announced recently, it is understood from the Red Wing Motor Company that by April 1, they will have ready for delivery a smaller Six also. This new Six is an outgrowth of their famous Model B engine which has been so popular during the past ten years. The new engine which is known as the BB Six has a bore of 4½ inches and stroke of 6 inches, and is built in two distinct types. The medium duty type for cruisers and commercial boats is rated at 45-70 h.p. at 600 to 1200 r.p.m. A special high speed type of lighter weight develops 80-110 h.p., at 1500 to 1800 r.p.m. and is especially designed for use in the fastest of runabouts.

The B B Six has a seven bearing crank shaft of 2 9/16 inch diameter, and is pressure oiled to every working part with the patented submerged type Red Wing oil pump furnishing positive circulation. The BB Six has the cylinders cast en bloc instead of in pairs as is the case on the larger Big Chief Sixes.

The building of this smaller Six makes the Red Wing line more complete than ever before, as it affords Red Wing reliability with six cylinder smoothness for medium sized cruisers as well as the larger craft, and also makes possible securing high speeds in runabouts. Advance information with dimensions of the BB Six for planning engine bed can be secured by writing the Red Wing Motor Company, Red Wing, Minn.

Boats Hoists

It is the custom of many owners of fine runabouts and other expensive craft, to haul them out of the water at such times when they are not in service. This system has a number of advantages, the principal one of which is that the boat will be dryer and lighter when kept in this way. The bottom has less opportunity for becoming foul, since the periods of use are in most cases less than the idle periods. Equipment designed particularly to simplify and ease the operation of raising the boat, is made by Herbert Morris Inc., of Buffalo, who makes a variety of triple gear boat hoists in different styles to suit various purposes. They are made from one-half to three ton capacities, and are arranged so that one man with a light hand chain pull, can raise a boat weighing up to five tons. An automatic brake is provided to sustain the boat in such a way that it cannot fall by any neglect on the part of the operator. The gear mechanism is entirely enclosed so that it is completely protected from moisture and salt air. Readers of MoToR BoatinG who are interested in equipment of this kind can secure more complete information by writing to the company at Buffalo.

Ruddock Takes Over Greenwich Yard

The entire property and equipment of the Greenwich Yacht Yard at Greenwich, Conn., has been purchased by W. F. Ruddock, who has been operating the Ruddock Boat and Yacht Works, Inc., on the Harlem River, for many years. It is his plan to run the yard at Greenwich in connection with his New York plant on the Harlem River. The arrangements provide for centering the activities in the Greenwich plant, and it has undergone extensive alterations and repairs to bring it up to date. It is now one of the finest yacht yards on the coast, and excellently situated for fitting out repairs and alterations. There is ample sheltered building space, and an abundance of dock facilities for all sizes of yachts. It is to be called the Greenwich plant of the Ruddock Yacht Works. Due to the increased facilities and equipment, all kinds of work can be done at short notice, and since a large stock of marine hardware is continually on hand, any kind of equipment can be secured without delay.

Mr. Ruddock has expanded this business from a small shop where he built racing shells, to a point where he now has one of the most complete yards for the building and repairing of yachts and motor boats of all kinds. The difficulty of bringing boats from Long Island Sound through Hell Gate and the Harlem River has prompted him to seek for a location along the Sound, and he was able to secure the Greenwich yard, giving him two separate plants and organizations. Since Mr. Ruddock takes an active interest in the operation and organization of the work, he is in a position to promise prompt deliveries on service and repair work, which, due to the increased facilities, will now be prompter still, if such a thing is possible.

(*Continued on page* 184)

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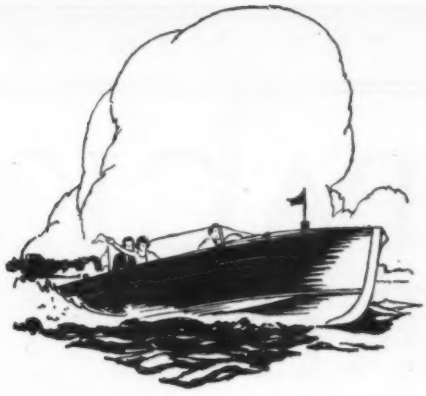

The New DODGE WATERCARS

Fastest of Their Class on the Water

And the Outstanding Value Sensation

Dodge Watercars, powered with the new Dodge Curtiss eight cylinder marine engine are the fastest stock runabouts in their class on the market.

Designed by George F. Crouch, builder of Gold Cup Race prize winners, they are easily capable of 35 to 37 statue miles per hour.

Yet, even at high speed in rough waters, these staunch craft provide luxurious comfort and utmost security. They are ideal for family use as well as for the man who wants the fastest and most beautiful of boats. All are equipped for salt water at no extra charge.

For those who require large seating capacity, the new double cockpit models are ready. In both single and double cockpit models there is a choice of two power plants.

From the outset, the new Dodge Watercars have proved the outstanding sensations in values. The delivered prices are now no more than those of good automobiles. Prompt delivery can be made in any part of the country, with special facilities at Miami.

The DODGE WATERCAR

Now Available in Four Models

Custom built Quality at Large Production Cost

MODEL 422	MODEL 426
A 22-footer, single cockpit with Dodge Marine Engine 30 H. P.	Double cockpit 26-footer with Dodge Marine Engine 30 H. P.
$2475	$2925
MODEL 822	**MODEL 826**
A 22-footer, single cockpit with Dodge-Curtiss Marine Engine 90 H. P.	Double cockpit 26-footer with Dodge-Curtiss Marine Engine 90 H. P.
$2975	$3475

THE HORACE E. DODGE BOAT WORKS INC., DETROIT, MICHIGAN

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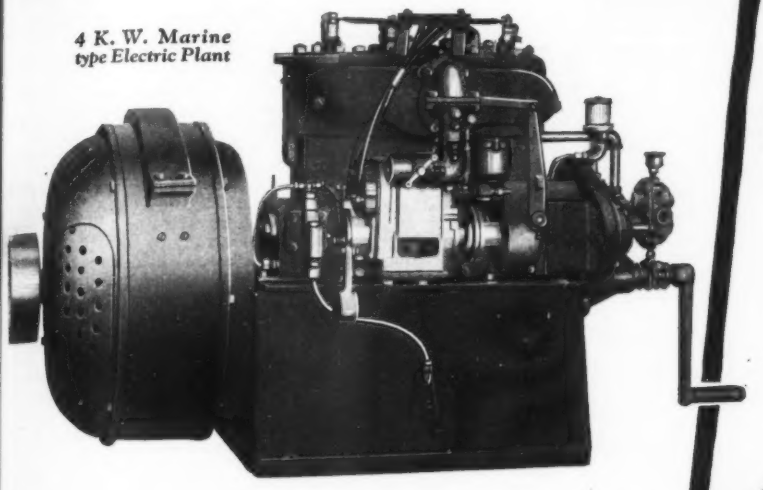


4 K. W. Marine type Electric Plant

Why MacMillan Chose Universal

WHERE price meant nothing, and reliability — unquestioned and certain — meant everything, Commander Donald MacMillan equipped his flagship *Peary* with two Universal 4 K. W. Electric Plants for his 1925 dash to the Arctic Circle.

Universal current not only furnished light, but also the current for his high power radio transmitting equipment —his only link with civilization. It simply *must not* fail!

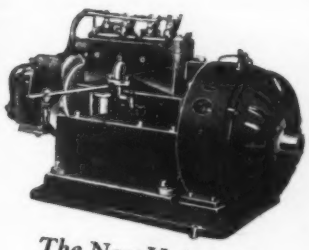
And the same dependability, the same ease of operation, the same compactness, the same economy of fuel and oil, that impelled Commander MacMillan to *select* and *order* Universal, are just as important to you, in choosing electrical equipment for your own boat.

Universal Marine-type Electric Plants are made in 5 popular sizes, illustrated herewith. Write for details, mentioning your lighting requirements.

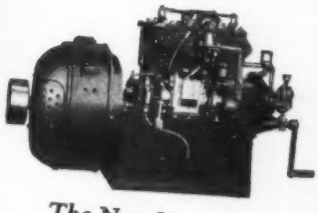
UNIVERSAL MOTOR COMPANY, 40 *Ceape St.*, OSHKOSH, WIS.
(*Not connected with any other firm using the name "Universal"*)

Universal MOTOR CO.
"There's a Size and Type Ideal for Your Boat"
ELECTRIC PLANTS

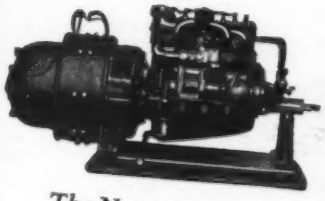
The New Universal 4 K. W.
—shown above, is a very popular size. Note that in this as well as all others in the line, the specially wound generator is bolted direct to motor bell-housing, saving greatly in weight and size and assuring permanent shaft alignment. In 32 or 110 volts; with or without batteries. 19-¼" wide, 23-¼" high; 45-¼" long; weight 540 pounds.



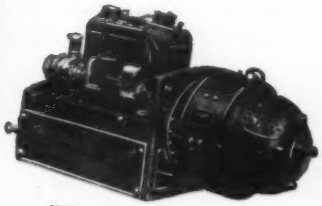
The New Universal 1-½ K. W.
Can be used with or without batteries; in 32 or 110 volts. 18-9/16" wide, 41-¼" long; 25-½" high; weight 495 lbs.



The New Universal 2-½ K. W.
Can be used with or without batteries; in 32 or 110 volts. 18-¼" wide; 45-¼" long; 23-¼" high; weight 510 lbs.



The New Universal 7-½ K. W.
More weight saved by specially designed rigid base; for use with or without batteries; in 110 or 220 volts. 19" wide, 62" long, 28-½" high; weight only 875 lbs.



The New Universal 12-½ K. W.
With or without batteries; 110 or 220 volts; 23" wide, 76" long; 35" high; weight 1500 lbs.

Yard and Shop

(*Continued from page* 180)

Erd Has Modern Plant

One of the fine marine motor plants in the country is that of the Erd Motors Corporation up in Northern Michigan. The manufacturers of the Erd S-4, the Erd S-151 and the latest addition to the Erd family, the Erd S-4 with Reduction Gear, have equipped their plant with the latest machinery and instituted modern manufacturing methods in order to make possible quantity production of their motors.

The great Erd plant contains huge milling machines and lathes, multiple drills, numerous cylinder grinders, and electrical dynamometer, and roller bearing conveyors for moving the unfinished motors through the plants. And these are only a few of the machines found in the huge building where Erds are produced by the thousands.

When the rough cylinder blocks come from the foundry they are milled on a huge Ingersoll milling machine which has a capacity of 100 cases a day. Precision to the thousandth of an inch is required and obtained in this miller. The cases are then carried on roller bearing conveyors to the hole hogs which bore four cylinders in exactly nine minutes. The cases then slide on to the Multiple, which drills and taps all the holes for the cylinder head studs, reverse gear studs, and fly-wheel housing studs.

The cylinders are then ground to a mirror finish and to exact size. From the machine shop the cases go to the assembly floor, where the bearings are put in the cases, placed in the burnishing machine and burnished and the crankshaft fitted. The rough forged crankshafts are made of chrome nickel steel, heat treated, and are machined and ground and finally balanced. The bearings are reamed with diamond bars making a 100% bearing in every case. During the burnishing operation, the connecting rod bearings are also fitted and run in. The blocks are then placed in the assembly stands and skillful assemblers complete the motor. When the motor is fully completed it is given a thorough dynomometer test, pulled down again, inspected and reassembled.

The operations described above are only a few of the steps necessary to bring Erd into being. Precision and fine workmanship such as are found only in the finest of motor plants are the daily rule in the Erd factory. Every part which can practicably be made in the Erd factory is made there, which allows for the most minute supervision over manufacturing details.

The dies, jigs, fixtures and equipment of the Erd plant are up-to-date and efficient. Neither time nor money have been spared in making this plant one of the most efficient in the country. A large stock of materials is kept on hand at all times to take care of unforseen delays, and a good number of finished motors are always held in reserve to meet emergencies. Immediate delivery is the rule of this factory.

Evinrude Announces 1926 Sport Twin

The improved Champion Sport Twin, announced for 1926 by the Evinrude Motor Company, is believed to be the answer to an ever-increasing demand among outboard enthusiasts for a motor which does not sacrifice power and endurance, in order to obtain greater speed.

Several valuable changes have been made which increase the handiness and reliability of the Sport Twin.

The efficiency of the super-power magneto is now much greater. New discoveries in the relation of pole pieces to magnet rings increase the intensity of the spark 30% at all speeds. With the improved magneto it is possible to get a fat spark while turning the motor as slowly as 36 r.p.m.

The automatic tilt-up is now 25% higher than in previous models, making it possible to tilt the motor so that the engine carries enough weight over center to hold it well out of the water while beached, docked, or drifting when fishing. The cooling system has been improved. The Evinrude no-clog pump provides a complete change of water every four seconds.

Enlarged inlet ports permit a greater flow of gas to reach the cylinders. In this way the power and the speed of the motor are greatly increased. The bracket, flywheel, pivot bearing, and reverse gear housing are of metal mould aluminum, which greatly increases the tensile strength of these parts. The new bracket has been widened to give greater distribution of pushing force against the stern of the boat.

A new rope steering device which comes with each motor permits the pilot to leave the tiller when he wishes. The fisherman can now set the motor on its course and stop trying to handle a back-lash and the tiller handle at the same time.

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EVEREADY COLUMBIA Dry Batteries

–they last longer

Popular uses include—

- motor-boat ignition
- gas engine ignition
- doorbells
- buzzers
- heat regulators
- tractor ignition
- starting Fords
- ringing burglar alarms
- protecting bank vaults
- electric clocks
- telephone and telegraph
- calling Pullman porters
- firing blasts
- lighting tents and outbuildings
- running toys

Eveready Columbia Hot Shot Batteries contain 4, 5 or 6 cells in a neat, water-proof steel case. It is not a "HotShot" unless it is an Eveready Columbia.

1½ volts. Fahnestock spring clip binding posts on the Eveready Columbia Ignitor at no extra cost.

Battery ignition is ideal

SKIPPER, battery ignition is ideal for motor-boat engines. It gives instant starting, uniform running, utmost reliability in all weather. Usually a dry-battery-equipped engine costs less in the first place, and practically always it costs you less to keep its ignition system in order. When buying a new engine or boat, and when refitting, make sure you get dry battery ignition, and put in a set of those longer lasting Eveready Columbia Dry Batteries. Most skippers prefer the Eveready Columbia Hot Shot in its water-proof steel case. There is an Eveready Columbia dealer in every port.

Manufactured and guaranteed by

NATIONAL CARBON COMPANY, INC.
New York San Francisco

Canadian National Carbon Co., Limited, Toronto, Ontario

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